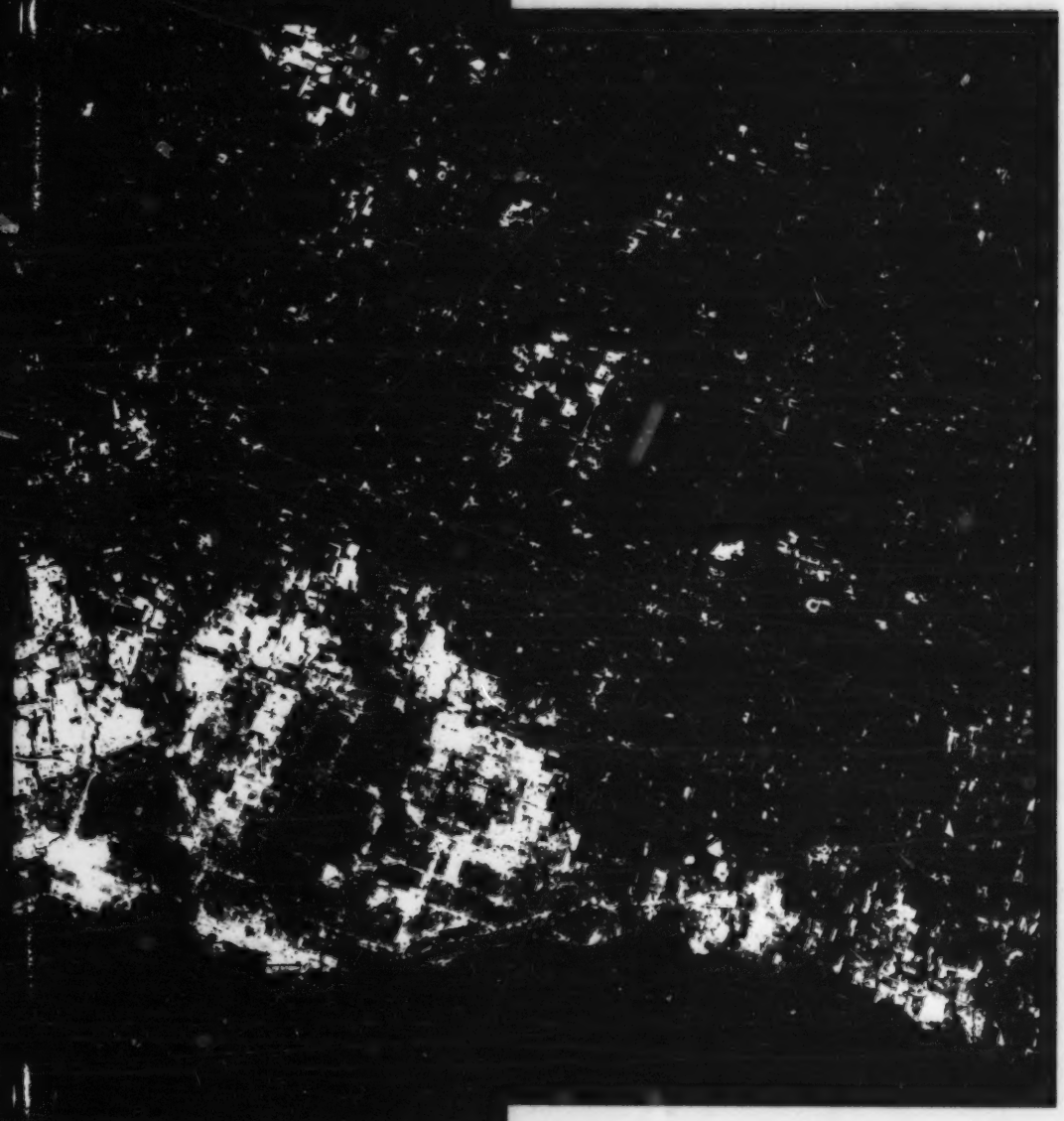
THE GTA: CONCEPTS FOR THE FUTURE



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THE GTA: CONCEPTS FOR THE FUTURE

Metropolitan Toronto Planning Department

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Table of Contents

Introduction, 4

1.0 **The Greater Toronto Area: a Profile, 8**

1.1 What is the GTA?, 8
1.2 How is the GTA Governed?, 8
1.3 How is the GTA Planned?, 8
1.4 Physical and Environmental Resources of the GTA, 9
1.5 Population of the GTA, 11
1.6 Households in the GTA, 11
1.7 Densities within the GTA, 11
1.8 Housing in the GTA, 12
1.9 Jobs in the GTA, 13
1.10 Transportation in the GTA, 14
1.11 Highway/Road Network, 16
1.12 Transit, 16
1.13 Waste Disposal in the GTA, 18
1.14 Financing the GTA, 18
1.14.1 The Costs of Growth, 18
1.14.2 Who Pays, 19

2.0 **Global Forces Shaping the GTA's Urban Form, 20**

2.1 The Environmental Challenge, 20
2.1.1 Global Warming, 20
2.1.2 Air Quality, 20
2.2 Transportation, 22
2.3 Energy, 22
2.4 Immigration, 22
2.5 Economic Forces, 23

3.0 **Urban Comparisons, 25**

3.1 United States of America and Australia, 25
3.2 Europe and Asia , 26

4.0 **GTA Planning Initiatives, 27**

4.1 Metropolitan Toronto, 27
4.1.1 1959 Draft Metropolitan Toronto Official Plan, 27
4.1.2 1966 Draft Metropolitan Toronto Official Plan, 27
4.2 Provincial Initiatives, 28
4.3 Emergence of the Regions, 29
4.4 Recent GTA Initiatives, 29

5.0 **Goals for Regional Development, 31**

5.1 Environment: Natural and BuiltForm,32
5.2 Social Well-Being, 32
5.3 Economic Opportunities, 33

6.0 **Policy Directions: the Choices Facing the GTA, 34**

6.1 Natural Environment, 34
6.1.1 Natural Environment Option 1: Laissez-Faire Environmental Management, 34
6.1.2 Natural Environment Option 2: Continuation Of Current Philosophy, 35
6.1.3 Natural Environment Option 3: An Environmental Framework, 35
6.2 Transportation, 36
6.2.1 Transportation Option 1: Continuation of Existing Modal Split, 37
6.2.2 Transportation Option 2: Increased Use of Transit and Other Forms of Non- Automobile Transportation, 38
6.2.3 Transportation Option 3: The Transit Region, 40
6.3 Employment, 41
6.3.1 Employment Option 1: Continued Dominance by Metropolitan Toronto, 41

6.3.2 Employment Option 2: Increasing Employment in the Regions Outside Metropolitan Toronto, 42
6.3.3 Employment Option 3: Further Deconcentration of Employment out of Metropolitan Toronto, 44
6.4 Housing, 44
6.4.1 Housing Option 1: Continuation of Current Market Trends, 45
6.4.2 Housing Option 2: Housing Intensification, 46
6.4.3 Housing Option 3: Focused Density Increases, 47
6.5 The Preferred Policy Framework, 47

7.0 **How Should the GTA Look? A Preferred Pattern of Growth, 48**

7.1 Current Urban Structure, 48
7.2 Future Alternatives, 49
7.3 Alternative 1: Sprawl, 49
7.3.1 Employment, 50
7.3.2 Transportation, 50
7.3.3 Natural Environment, 50
7.3.4 Housing, 51
7.3.5 Community Impact, 51
7.4 Alternative 11: Fingers, 51
7.4.1 Employment, 52
7.4.2 Transportation, 52
7.4.3 Natural Environment
7.4.4 Housing, 52
7.4.5 Community Impact,
7.5 Alternative 111: Deconcentrated Centres, 53
7.5.1 Employment, 53
7.5.2 Transportation, 54
7.5.3 Natural Environment, 54
7.5.4 Housing, 55
7.5.5 Community Impact, 55
7.6 Alternative 1V: Concentration, 55
7.6.1 Employment, 55
7.6.2 Transportation, 56
7.8.3 Environment, 56
7.6.4 Housing, 57
7.6.5 Community Impact, 57
7.6.6 Other, 57
7.7 Alternative V: Re-Investment Centres, 57
7.7.1 Employment, 59
7.7.2 Transportation, 59
7.7.3 Natural Environment, 59
7.7.4 Housing, 60
7.7.5 Community Impact, 60
7.7.6 Other, 60
7.8 Evaluation summary, 61
7.9 Conclusion, 63

8.0 **Implementation, 64**

8.1 Inter-regional planning elsewhere, 64
8.2 Criteria for successful inter-regional planning mechanisms, 64
8.3 Assessment of planning mechanisms within the GTA, 65
8.4 Options for inter-regional planning, 66
8.4.1 Direct provincial intervention, 66
8.4.2 Indirect provincial intervention, 66
8.4.3 Special purpose bodies & task forces, 67
8.4.4 The establishment of an inter-regional planning committee or board, 67
8.4.4.1 Roles and Responsibilities, 68
8.5 Provincial/municipal partnership, 69
8.6 Conclusion, 70

INTRODUCTION

For the last 50 years, the Greater Toronto Area (GTA) has been the fastest growing metropolitan region in Canada. During this time, the population has increased from just one million persons to almost four million. In 1940, Toronto was a regional centre with 8% of Canada's population largely contained within the boundaries of the City of Toronto. Today, the urbanized area of the GTA stretches from Burlington to Oshawa and north to Newmarket, with 15% of Canada's population contained within an urban area six times larger than in 1945.

In 1953, Metropolitan Toronto was created as Canada's first regional government in response to pressures of urban growth. As growth spread outwards, four other regional governments were established: Durham, Halton, Peel and York. Together with Metropolitan Toronto, they comprise the Greater Toronto Area (GTA).

Metropolitan Toronto is now in a situation similar to the City of Toronto in 1953. It is surrounded by rapid growth outside its boundaries, growth which impacts significantly upon daily life within its boundaries.

Metropolitan Toronto has been called the "City that Works". In comparison to other large urban areas, the streets of Metropolitan Toronto are clean and safe, the TTC is efficient and the environment is generally attractive. Residents have pride in the education sys-

tem, the cultural and recreational opportunities and the distinctive quality of life that Metro's diversity offers.

During the 1980's, Metropolitan Toronto became the pre-eminent economic centre in Canada, with strong ties to the international financial community. Its quick recovery from the recession of the early 1980's demonstrates the strength of the economy.

Metropolitan Toronto has also been called a "World Class City". It hosted the 1988 Economic Summit of World Leaders, and was a serious contender for Expo 2000 and the 1996 Olympics.

In spite of these achievements, there appears to be growing concern over the quality of life within Metropolitan Toronto and the GTA as a whole. Increasing congestion on the roads and transit system, air pollution, the problems of waste disposal, beach closures due to water pollution, high housing prices and lack of rental housing, increased crime and incidences of racial tension are viewed as indicators of the deterioration in the overall quality of life.

This dichotomy is not surprising for an urban metropolis of four million people, projected to increase to approximately six million within a generation. Increasingly, the GTA must face the challenges that other large urban metropolitan areas have faced for years.

The rapid growth of the GTA is being examined by many agencies and governments because the environ-

mental, transportation, social and housing issues require effective and co-ordinated solutions.

The provincial government has established the Office of the Greater Toronto Area (OGTA) to coordinate and support regional planning decisions across the GTA. The Province chairs the Greater Toronto Coordinating Committee (GTCC), which has undertaken a study examining three alternative patterns of urban development for the GTA: a "Spread" option, a "Nodal" option and a "Concentration" option.

At the same time, existing regional planning instruments, including the Metropolitan Toronto Official Plan, are being revised or are under review.

Fundamental to these planning initiatives is an understanding of the options for accommodating growth within the GTA. The GTA will continue to grow for a variety of demographic and economic reasons; how that growth is planned is important due to the long lead times and the large investment needed to acquire the necessary land, build public works and provide services.

Metropolitan Toronto is at the centre of the GTA. It is particularly crucial for Metropolitan Toronto to understand the options for managing growth. Any strategy for growth throughout the GTA directly affects decisions Metropolitan Toronto must make with respect to transportation, housing and employment as part of its Plan Review.

Consequently, this report has two related puposes:

- to provide a regional context, as part of the Metropolitan Toronto Plan Review, to the development of a new Metropolitan Toronto Official Plan; and

- to provide input to the discussions that will be taking place throughout the GTA on the study recently undertaken on behalf of the GTCC.

It addresses the issues of urban growth, and Metropolitan Toronto's interests in the shape of the future GTA, suggesting options for the environment, urban form, housing, employment, transportation and their impact on sustainable development and the overall quality of life. These issues are presented within the context of current conditions in the GTA and the global forces affecting it. The report also compares Metropolitan Toronto with other international urban areas.

In addition, this report suggests that effective planning mechanisms be examined to achieve a consensus on a broad and consistent strategy for the entire GTA.

1.0 The Greater Toronto Area: A Profile

1.1 What is the GTA?

Throughout this report the term, the Greater Toronto Area, or the abbreviation GTA, will be used. The GTA includes Metropolitan Toronto and the four Regional Municipalities of Durham, Halton, Peel and York, and encompasses an area over 7060 square kilometres (km^2).

It is recognized that the use of these boundaries for planning purposes is arbitrary. The GTA is part of a larger hierarchy of settlements within southern Ontario and has important urban linkages extending beyond the municipal boundaries of the GTA to Hamilton-Wentworth, Kitchener-Waterloo and other municipalities.

Decisions respecting growth within the GTA have impacts upon this extended area and vice versa.

1.2 How is the GTA Governed?

All the regional governments within the GTA, including Metropolitan Toronto, are federations of area municipalities. Each was formed by, and is regulated by individual legislation. Areas of responsibility relate primarily to the provision of region-wide services and infrastructure, designed to ensure efficient and effective delivery of services with equal access to all residents.

Metropolitan Toronto is the only regional municipality with a directly elected council in the GTA. The four surrounding regions are governed by a chairman and council drawn from elected representatives of the area municipal councils.

In 1988, the Province of Ontario formed the Greater Toronto Coordinating Committee (GTCC). The GTCC is comprised of the regional Chief Administrative Officers of the GTA and certain area municipalities, chaired by the Assistant Deputy Minister for the GTA. The intent of the GTCC is to provide a forum to discuss issues of mutual concern and to assist the Province in planning for major services.

1.3 How is the GTA Planned?

Three levels of government are directly involved in planning administration within the GTA: the provincial government which exercises its statutory approval of all regional and local official plans, the five regions which are mandated to prepare regional official plans, and the 30 area municipalities which have local planning control.

Three of the regional municipalities (Metropolitan Toronto, Halton and Durham) have ap-

proved official plans. Plans for York and Peel are in preparation. All the area municipalities have approved official plans.

The Province of Ontario, through the Ministry of Municipal Affairs, approves all regional and local official plans. The Province exercises control over the development process through the legislative requirement that all by-laws and public works conform to official plans. The Minister's approval power for local official plans in Halton has been delegated to Halton region. Discussions are under way between the Province and Metropolitan Toronto regarding delegation to Metropolitan Toronto of local official plan approval within its boundaries.

Although rarely exercised, the Province has the legislative mandate to prepare provincial statutory plans, declare areas of provincial interest and impose zoning orders. The Province has approved two statutory plans: the Parkway Belt West Plan and the Niagara Escarpment Plan. Both plans have helped to shape the form of growth in parts of the GTA.

In theory, the primary mechanisms for co-ordinating growth are the regional official plans; however, in many instances the key mechanism for controlling growth has been the provincial allocation of grants.

1.4 Physical and Environmental Resources of the GTA

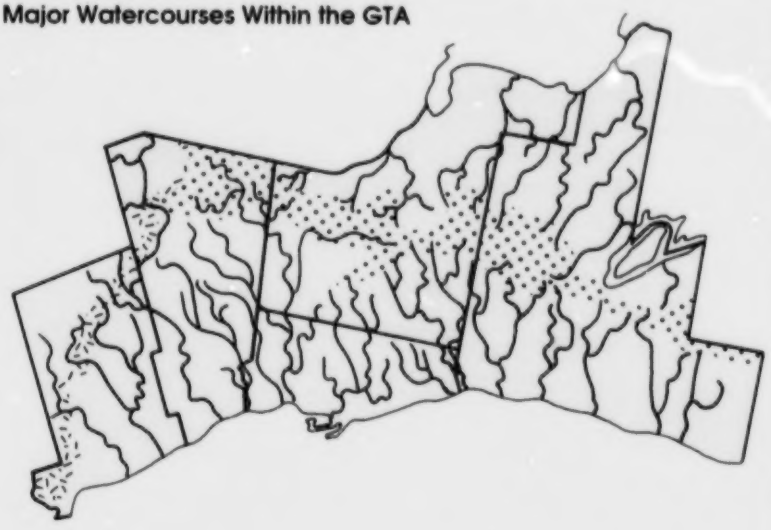
The GTA has a number of physical and environmental resources that have contributed to its urban form. Situated in the southern part of the nation, the GTA's climate is warmer than most other urban areas in Canada. This climate and its good agricultural soils made it an ideal settlement area in Canada's early days.

The gently undulating terrain rises north from Lake Ontario. South of the Oak Ridges Moraine, the area is well drained by a number of rivers and streams flowing through deeply incised valleys which provide much of the parks system. Unfortunately, these valleys have made east-west linkage improvement difficult. North of the moraine, the valleys are more mature systems with lower gradients and profiles.

Today, approximately 1500 square kilometres (km^2) are urban and 5560 km^2 are rural. Within the municipal boundaries of the GTA there is a natural basin (3900 km^2) formed by the Niagara Escarpment on the west and the Oak Ridges Moraine on the north. The principal pressure for urban growth is occurring in this area.

Rural landscape, Halton Region

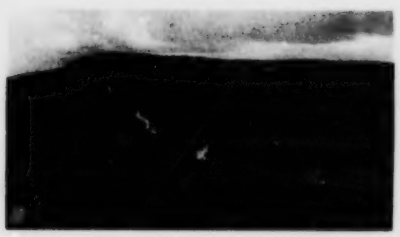
Major Watercourses Within the GTA



The Oak Ridges Moraine is one of the most significant physical features in the GTA. The moraine acts as the headwaters of the rivers flowing south into Lake Ontario and north to Lake Simcoe.

The moraine is a major groundwater recharge and discharge area. It provides local water supplies and maintains the flow of water courses originating in this area.

The most prominent geological landform is the Niagara Escarpment. This distinctive ridge of sedimentary rock contains more than 100 sites of geological significance. The ridge stretches about 725 km. from Queenston on the Niagara River, crossing through the western part of the GTA, to Tobermory at the tip of the Bruce Peninsula.



View of the Niagara Escarpment from Milton, Ontario

Photo: Courtesy of Niagara Escarpment Commission

In 1985, the Province approved the Niagara Escarpment Plan, an environmental plan aimed at protecting the escarpment and controlling development in the vicinity.

In 1990, UNESCO designated the Niagara Escarpment as a "Biosphere Reserve" under its "Man and Biosphere" program. The Niagara Escarpment is one of only two such reserves in Ontario.

Lake Ontario, Lake Simcoe and Lake Scugog are under considerable environmental pressure due to urban and agricultural storm water run-off. The Metropolitan Toronto Waterfront is one of 42 areas of concern in the Great Lakes Basin identified by The International Joint Commission as being in need of special efforts to restore water quality.

Within the GTA there are a few remaining wetlands which provide unique habitats for plants, fish and wildlife. These wetlands function as water retention areas and improve water quality through filtration. The most important wetlands are located along the Lake Ontario shoreline: the Oshawa Second Marsh, the Bowmanville Marsh, Frenchman's Bay in Pickering and Cranberry Marsh near Whitby. The provincial Ministry of Natural Resources, conservation authorities and some municipalities within the GTA have iden-

tified environmentally significant areas (ESA), and Areas of Natural and Scientific Interest (ANSI). Some, but not all, are protected in official plans. In addition, the Rouge Valley is designated under a provincial program to protect Carolinian forests.

A significant amount of land in the GTA is Class 1, 2 and 3 agricultural land (Canadian Land Inventory). Urban expansion in the GTA occurs primarily on these prime agricultural lands.

There are extensive aggregate resources in the GTA, particularly in Caledon and Uxbridge. These resources are used in construction and public works.

1.5 The Population of the GTA

The 1986 Census reported 3.7 million people living in the GTA. 59% (2.2 million) resided in Metro and the rest in the four surrounding regional municipalities. Population projections suggest that by 2011, with some policy reorientation, Metropolitan Toronto's population may grow by approximately 300,000 persons, while the four regions may increase by about 1.2 million. This growth has major implications for the structure of the region.

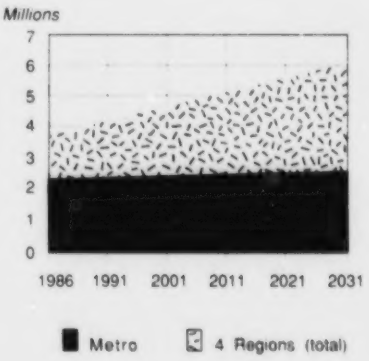
The population projections used in this report are slightly lower than those used by the studies prepared for the Greater Toronto Coordinating Committee. The differences are not substantial and stem from minor differences in migration assumptions.

Natural increase in the population is currently less than that required to replace the population. It is projected that the number of children should increase until the year 2000 and then decline as a percentage of the total population. At the same time, the proportion of the total population over 60 years old is projected to increase considerably (Metropolitan Toronto Planning Department, Research Division, 1988).

1.6 Households in the GTA

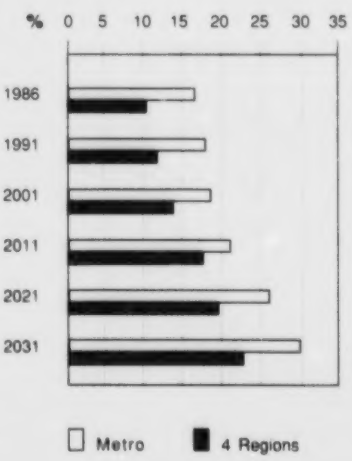
The traditional family unit has changed markedly: the divorce rate is high; and births to single mothers are increasing. These factors, coupled with decreased fertility rates and the independence of seniors, should continue to result in smaller household size. In 1986, there were 1.3 million one and two person households in the GTA. Average household size in Metropolitan Toronto was 2.6 persons and in the regions it was 3.1 persons. Statistics Canada projects that household size is likely to decline to 2.4 and 2.7 respectively by 2011, thereby increasing the demand for housing beyond what is required to house population growth.

Population: Greater Toronto Area
Metro and the 4 Regions*



* 1986 and Projections to 2031
Source: Statistics Canada, MTPD Projections, 1989

% of Total Population 60+
1986 and Projections to 2031



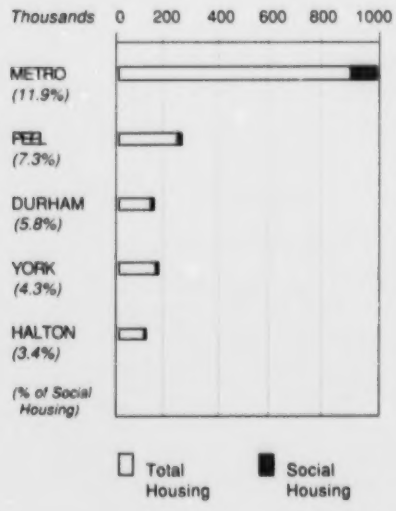
Source: Census of Canada
MTPD Demographic Projections, 1988

Household by Structure Type: 1986
Metro and the 4 Regions

	Detatched	Semi	Apartment	Other
Metro	281,540	132,485	280,155	122,650
Durham	71,040	16,270	9,295	9,995
York	84,310	10,115	5,495	4,855
Peel	87,215	46,035	42,935	10,125
Halton	58,710	11,785	13,695	5,525
4 Regions	301,275	84,205	71,420	30,500
G.T.A.	582,815	216,690	351,575	153,150

Source: *Statistics Canada, MTPD Research Division, 1989*

Social Housing in the GTA
Metro and the 4 Regions



Note: *Social Housing as defined by the Ministry of Housing*

Source: *Housing Inventory: Social Housing Branch, Ministry of Housing, Dec., 1989. Census of Canada, Statistics Canada 1986 & MTPD Estimates Dec. 1989*

1.7 Densities Within the GTA

The City of Toronto has the highest population density in the GTA at approximately 6000 persons per square kilometre (ppkm^2). However, this central area density is moderate by international standards. The density declines to an average of 3500 ppkm^2 for Metropolitan Toronto as a whole and further declines to 2100 ppkm^2 outside Metropolitan Toronto in the urbanized portion of the GTA. This suburban density is slightly higher than densities in other North American cities but is, in general, too low to support viable transit systems. At 3000 ppkm^2, a community can normally operate a minimum level transit service. At 4000 ppkm^2, the frequency and quality of service make transit a viable alternative for employment commuting and other trips.

1.8 Housing in the GTA

Metropolitan Toronto offers the broadest range of housing types within the GTA. In 1986, approximately 34% of Metropolitan Toronto residents lived in apartments, and 50% of all units were rented. This contrasted with the four surrounding regions where single family dwellings made up the bulk of the housing stock and only 26% of all units were rented (1986 Census). Of the suburban regions, the Region of Peel provided the greatest variety of housing types (23% apartments) and the Region of York the least (80% single detached houses).

In August 1990, house prices averaged $266,000 in Metropolitan Toronto and only slightly less in the GTA as a whole (Toronto Real Estate Board, 1990). In contrast, the Ministry of Housing places a price of $158,000 as the upper limit for affordable housing in the GTA. House prices have declined from an all time high in 1989 (Toronto Real Estate Board, 1989), but this has not appreciably increased affordability because higher interest rates have increased monthly carrying costs.

Metropolitan Toronto not only has some of the most expensive housing in the GTA, but also some of the most affordable housing in the form of older housing stock.

Tenants are not in an appreciably better situation than first time home buyers. A CMHC rental market survey in 1989 indicated the average rental price for a two bedroom unit was $643.00. However, the survey included a large proportion of units under long-term rent control. Tenants entering the market have limited choices in rental buildings but more choices in houses and condominium units for rent. These rents were found to be considerably higher than the average for a standard two bedroom condominium, which ranged from $900.00 to

$1,300.00 depending on location (Royal LePage Survey of Canadian House Prices, 1989).

Social housing is not equitably distributed throughout the GTA. In 1989, out of a total of 139,500 units, 106,100 were in Metropolitan Toronto (Ministry of Housing, 1989).

The present generation has been raised on the expectation of a single family house in reasonable proximity to school and work. Increasingly, those who can afford the traditional dream of a single family dwelling are two income households who are better equipped to deal with the cost of the housing market.

Local and regional governments can no longer afford to ignore the implications of housing costs and availability. The ability to retain employment and to attract workers depends on finding equitable solutions within the GTA.

1.9 Jobs in the GTA

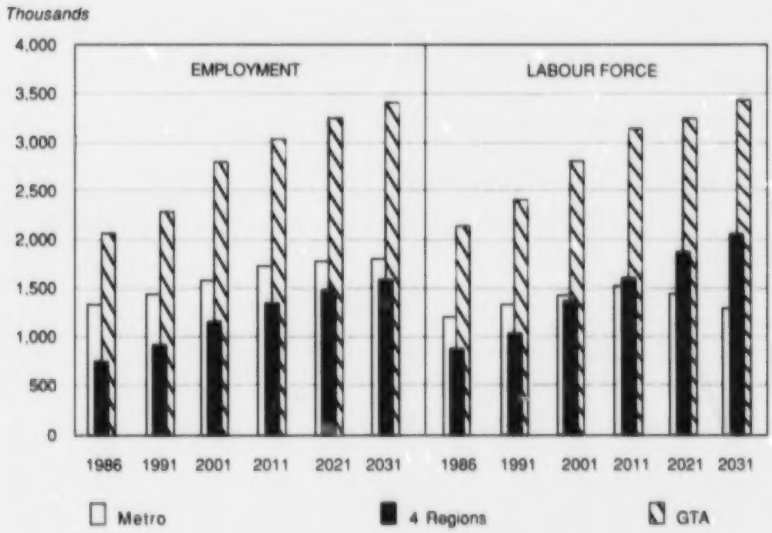
Based on the 1986 Census there were approximately 2.1 million jobs in the GTA in 1986. Of this, Metropolitan Toronto provided approximately 65% of the GTA total. Metropolitan Toronto ratio of total employment to labour force was 105%, or 12% more jobs than the resident labour force. In the other four regions, the ratio ranged from 78% in Halton and Durham to 87% in Peel and York.

Continued high job formation is projected for all the regions in the GTA. However, given the aging population, the ratio of jobs to labour force within Metropolitan Toronto is projected to increase to 116% by 2011 (Statistics Canada and MTPD Research Division, 1989). This suggests that the rate of in-commuting to Metropolitan Toronto is likely to continue to increase, and with it, the congestion and length of the journey to work.

Metropolitan Toronto has experienced a 3% decline in the number of industrial jobs as a percentage of total employment between 1984 and 1989 (MTPD Research Division, 1989). The regions outside Metropolitan Toronto have experienced an increase in industrial as well as office employment. This trend is projected to continue (Hemson Planning Consultants, 1989).

While Metropolitan Toronto has a broad range of housing, this is not the case throughout the GTA. To reduce inter- regional commuting, the type of housing and its affordability should be closely matched to the local employment opportunities within each region. If this match is not achieved, growth in employment and population may shift outside the GTA.

Employment and Labour Force
Metro and the 4 Regions*



* *1986 and Projections Based on Trends to 2031*

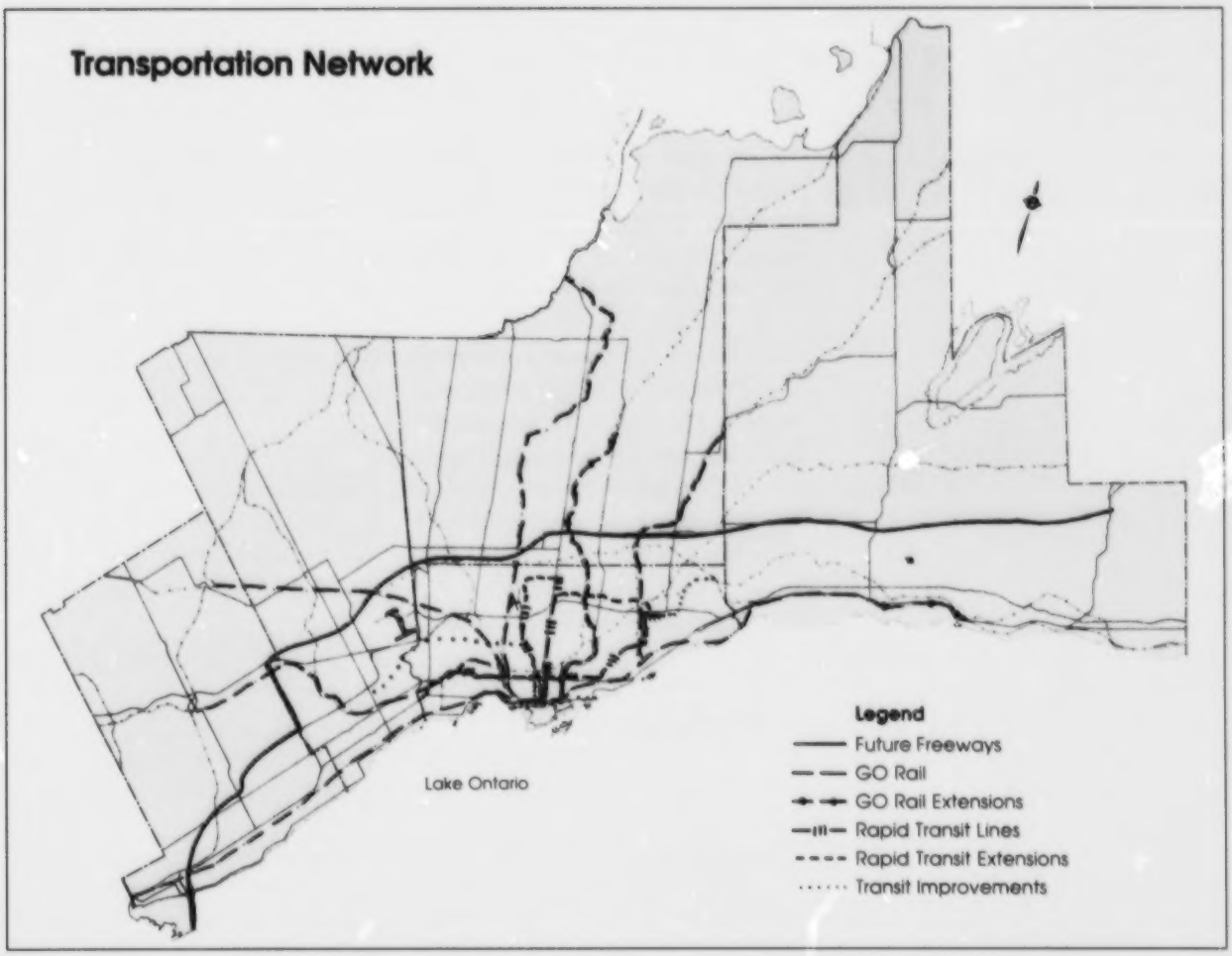
Source: *Historical Data, Statistics Canada, MTPD Research Division, 1989*

Of the 11.7 million square metres of office space in the GTA in 1988, 10.5 million square metres were located in Metropolitan Toronto. The Metropolitan Toronto share of offices has declined from about 95% in 1976 to 88% in 1988 (MTPD Research Division, 1989). However, the rate of increase in office space in the surrounding regions has not been sufficient to appreciably alter the rate of in-commuting. The largest increase in office space outside of Metropolitan Toronto over the last decade was in Peel, where particular emphasis has been placed on the creation of identifiable nodes of office development, such as the Mississauga City Centre.

Present projections are for a continuing increase in office development in Metropolitan Toronto. Several factors may modify that projection. One is the higher average cost of office space in Metropolitan Toronto which, according to a 1990 Royal LePage Survey, ranged from $49.00 per square foot in the financial core to about $20.00 in the Finch/Dufferin area. In comparison, the most expensive office space outside Metropolitan Toronto was in the Mississauga City Centre at $25.00 per square foot. The other factor is increased congestion in the journey to work, which is made worse by continuing trends to longer average trip lengths. Congestion is not only a factor in commuting into Metropolitan Toronto; suburban congestion in the four regions is growing significantly.

1.10 TRANSPORTATION IN THE GTA

The GTA has an extensive regional transportation system largely planned and implemented in the 1940's, 1950's and 1960's. Highway 407, now under construction, was shown in the 1959 Metropolitan Toronto Plan. The provincial "Let's Move" transit initiatives, essentially a catch-up program,



will provide both improvements to transit service and to the existing roads network.

The most current transportation data for the GTA is the Transportation Tomorrow Survey (Ministry of Transportation, 1989). In 1986, 7.8 million trips were made on an average workday, of which 71% were by automobile, 19% by transit, 9% by walking/cycling and 1% by taxis and motorcycles. During the morning rush hour, transit increased to 25% and walking/cycling to 10%. In Metropolitan Toronto the use of transit was 33% of all trips in the morning rush hour.

Nearly two-thirds of all trips generated within the GTA have either an origin or destination in Metropolitan Toronto.

Highway 427: a component of the GTA's highway network

The degree of self-containment varies among GTA regions. In 1986, 87% of trips within Metropolitan Toronto had both their origin and destination within Metro. The same was true in Durham. The proportion was 78% in Halton, 73% in Peel and 63% in York (MTO, 1989).

One of the factors affecting the proportion of intra-regional trips is the match between employment and housing within each region. Another is the ease of movement across the municipal boundaries.

1.11 Highway/Road Network

Major additions to the highway system include Hwy. 407, which will eventually extend across the GTA north of Steeles Avenue, and extensions to Hwy. 403 linking the Q.E.W., Hwy 401 and Hwy. 407 within Peel and Halton Regions. The effect will be to serve dispersed development throughout the urbanizing areas of the GTA.

Even with these improvements, the future prospects for commuting into Metropolitan Toronto are not encouraging. Cross boundary trips into Metropolitan Toronto could double and the number of trips outwards from Metropolitan Toronto could increase 55% by 2011. Inter-regional trips are expected to rise from 19% to 30-35% with the majority of trips still made within regions (MTPD Statistical Series, 1989).

Unless auto dependence for these cross-boundary trips is reduced, the road system will be increasingly unable to cope with demand. This is due to physical constraints on the ability to provide additional road linkages at high demand points along the Metropolitan Toronto boundary:

- the Etobicoke Creek and the Pearson International Airport act as physical barriers to increased road capacity across the Peel- Metropolitan Toronto boundary;

- the Dufferin to Bayview corridor carries high volumes of trips which are expected to increase in the future with little capability for expansion available ; and

- the recently announced Rouge Valley Park limits opportunities to improve road connections to eastern York and Durham Regions.

Within Metropolitan Toronto, road improvements are equally difficult to achieve. No new major roads have been constructed since the 1960's. Proposed improvements such as the Front Street, Leslie Street and Black Creek Drive extensions should provide much needed additional capacity in certain areas. However, the river valleys preclude significant additional road infrastructure in Metropolitan Toronto.

1.12 TRANSIT

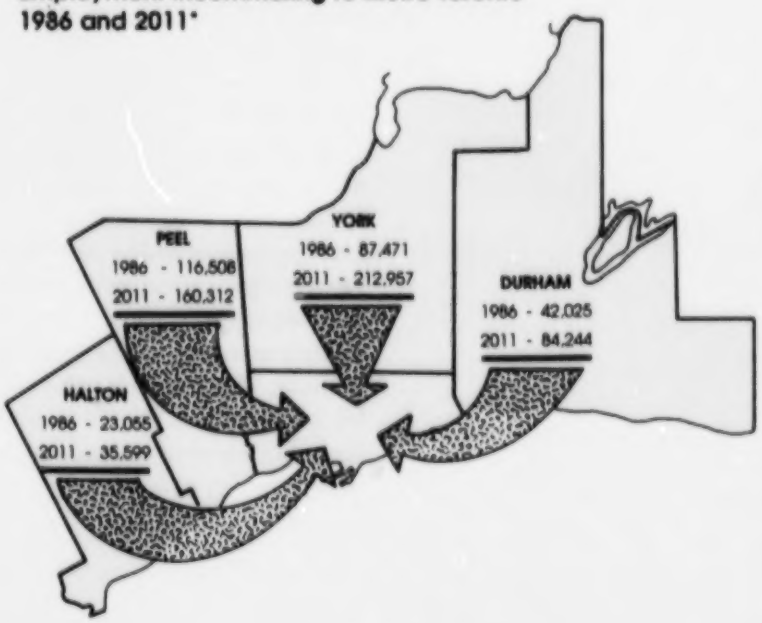
There are three types of transit in the GTA: GO-transit, one regional transit system (the TTC) and 14 local bus systems, operated by area municipalities directly, or contracted to private operators.

With limited opportunities to increase road capacity, the percentage of travel by transit must increase significantly across the boundaries of Metropolitan Toronto in order to accommodate increases in cross-boundary travel (Ministry of Transportation, Transit Advisory Group, 1987).

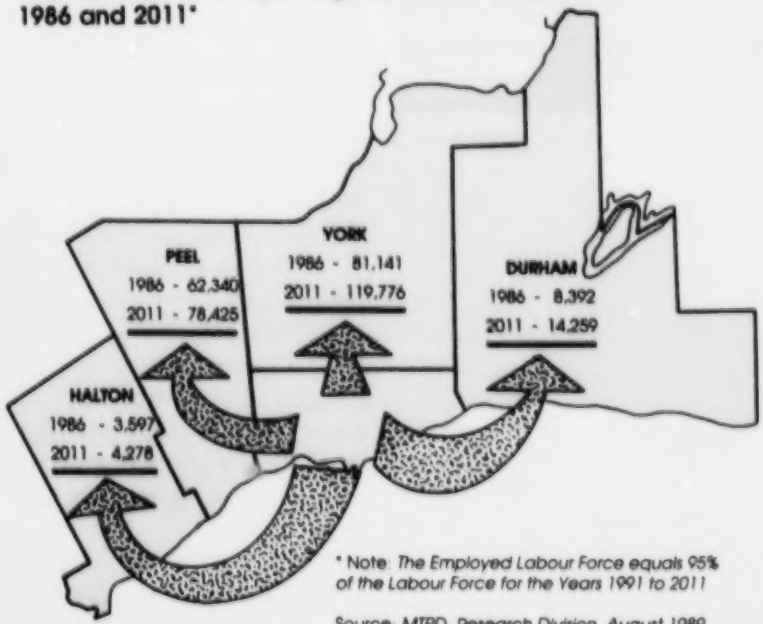
The proportion of transit trips within Metropolitan Toronto is considerably higher than for trips in-bound from the regions. In 1986 during rush hour, 18% of inter-regional trips to Metropolitan Toronto were by transit; this increased to 43% at the suburban cordon and to 68% entering the central area. Of the transit trips entering the central area only 10% were made on GO Rail (Transportation Tomorrow Survey, 1989).

The proposed expansion of rapid transit in Metropolitan Toronto has the capability of increasing operational efficiency on the Yonge/University line (the "loop" configuration) as well as supporting development of additional mixed use centres along the Eglinton West and the Sheppard East lines.

Employment Incommuting to Metro Toronto 1986 and 2011*



Employment Outcommuting from Metro Toronto 1986 and 2011*



* Note: *The Employed Labour Force equals 95% of the Labour Force for the Years 1991 to 2011*

Source: *MTPD, Research Division, August 1989 Statistics Canada, Census of Canada*

Incommuting to Metropolitan Toronto is projected to increase. The associated increase in traffic congestion could be reduced if development is attracted to transit routes and measures to reduce auto use are implemented, such as the establishment of gateways to intercept in-bound auto trips and expansion to the commuter rail system. Currently the radial GO Rail system's central area orientation emphasizes downtown Toronto. This is further reinforced by the local bus systems in the four regions which act essentially as a feeder system for GO trains bound for central Toronto.

Keele Valley landfill, York Region

1.13 Waste Disposal in the GTA

The volume of waste produced is a major problem facing all regional municipalities in the GTA. The urgency of the situation has led to the formation of the GTA Solid Waste Interim Steering Committee to propose solutions for waste management. Metropolitan Toronto has been developing a Solid Waste Environmental Assessment Plan (SWEAP) for the last two years and has adopted the goal of diverting 30% of total waste generated from landfill sites by 1992. The Blue Box program and composting are part of this program.

1.14 Financing the GTA

A study commissioned by the GTCC determined that between 1984 and 1988 the average annual capital expenditures from both municipal and provincial sources within the GTA were approximately $1.78 billion per year. The average per capita expenditures was approximately $476. (IBI Group, GTA Urban Structure Concepts Study). This included municipal and provincial expenditures on transportation (transit facilities and road construction), hard services (water/sewer facilities), environment (parkland acquisition, stormwater retention ponds) and human services (hospitals, schools, social/recreational facilities, police buildings and equipment).

The municipalities within the GTA differed in their allocation of both capital expenditures and operating expenditures reflecting the different infrastructure needs and varying legislated mandates. For example, the capital and operating expenditures within Metropolitan Toronto reflected the costs of maintaining a regional transit system and lower expenditures on piped services. The expenditures within the regions outside Metropolitan Toronto reflected the costs of extending infrastructure to an expanding community.

1.14.1 The Costs of Growth

The study commissioned by the GTCC has estimated the approximate costs of accommodating a population growth of an additional

2.0 million people within the GTA. It projects that the capital costs of accommodating this population growth may range between $73.8 billion and $78.8 billion between 1990 and 2021, depending upon the future pattern of development.

There does not appear to be a significant difference between the overall capital costs of alternative patterns of growth. The same is true of transportation capital costs, however, capital expenditures within the categories of hard services and urban open space are projected to differ significantly. The key factors appear to be the costs of providing local hard services (the larger the urban envelope, the greater the increase in these costs) and the costs of providing urban open space (the smaller the urban envelope, the greater the costs of providing urban open space within the envelope).

The same study projects that transportation and solid waste management annual operating costs will range between $10.87 billion and $12.96 billion. Again operating costs for transportation are related to the size of the urban envelope. A low density pattern of growth is the most costly in terms of transportation operating costs. Over the long term these may have far greater financial impact than the capital costs.

1.14.2 Who Pays

Clearly, the costs of growth are significant. How this growth is paid for, and by whom, are issues that need to be addressed:

- **Provincial Financial Support:** much of the infrastructure investment will depend on provincial expenditures. To a large extent, the level of financial investment committed by the Province, particularly for infrastructure in advance of population demand, will determine the success of the GTA in creating a sustainable and liveable environment;

- **Restructuring Property Tax:** weaknesses in the current municipal property tax system, which emphasize non-residential over residential assessment, limit the efforts of GTA municipalities in directing employment and housing growth in ways that may be desirable to meet non-financial goals;

- **Private Sector Funding:** often the private sector benefits financially from public investment in infrastructure, for example, the construction of a rapid transit line. In addition, costs to the public sector which are caused by private sector initiatives are not recouped, for example the need for improved transit facilities to service an office development. A better process for apportioning financial costs and benefits needs to be devised.

2.0 Global Forces Shaping the GTA's Urban Form

(sustainable development is) "positive socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent. Its successful implementation requires integrate policy, planning and social learning processes; its political viability depends on the full support of the people it affects through their governments, their social institutions and their private activities".

Rees, University of British Columbia Centre for Human Settlement, CHS Research Bulletin, May 1989

A number of global forces present challenges to the GTA: changes in the global economy, the environment and the wise use of resources. These global concerns have been documented by the Brundtland Commission Report, Our Common Future, which promotes the theme of "sustainable development".

The Commission defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition emphasizes the merging of environmental and economic decision-making and the idea of intergenerational equity: the necessity of leaving a legacy of a robust economy in balance with a healthy environment for future generations. Inherent in the concept of sustainable development is the integration of human activity, urban growth and technological development with the preservation of the natural environment and the quality of life.

Sustainable development depends on socio-political changes and the ability to alter human values and behaviour, the fundamental determinants of environmental degradation.

The concept of sustainable development is crucial to enhancing the quality of life. Planning policies shaping the urban form of the GTA and its transportation systems must be assessed against the basic tenets of sustainable development.

Another related theme central to future urban form is the "healthy" metropolis: the creation of an urban environment that is less alienating, provides universal access to services and minimizes pollution.

2.1 The Evironmental Challenge

2.1.1 Global Warming

Global warming has several potential impacts on the GTA:

- there may be increased immigration pressure. The United Nations Intergovernmental Panel on Climate Change has suggested that, globally, there may be 50 million environmental refugees assuming the two to five degree temperature increase projected over the next century;

- the GTA climate may be warmer and dryer; and

- there may be increased pressure on the GTA's agricultural and urban resources, both to produce food and as alternative employment locations.

2.1.2 Air Quality

Global warming is caused by the build up of gases that contribute

Saving Ozone May Prove to Be Costly

Bike-to-work week

Statistics gathered by
committee show that bicycl
of transit in the city. There
the road today as there
wide survey reveals that
their bicycles to get around in the city.
More people are choosing bicycles over cr
transit to keep
avoid the frust
vehicles. And
Given thi
es credit
his mor
bil

Olympics just burden host city's taxpayers

It's a good thing Toronto's b
for Expo 2000 has failed. Let's
e the same for the 1996

Canada flunks 'green test'

OTTAWA (Special) — Canada as done poorly in a survey of ow well the world's richest na- ions preserve the environment.

In a report card on the seven largest industrial nations, Canada finished in a tie for second-last place for environmental responsibility.

The report was prepared by an international coalition of environmental groups and it ranks the performance of each country on the environment since their leaders met in Paris a year ago.

Dubbed the Green Summit, that meeting of the so-called Group of Seven marked the first time environmental issues took centre stage at the annual talks.

scored 24 out of a possi
nd tied with Japan.
Only Italy

Environmen top concern, poll reveals

Ninety-five per cent of dians are concerned abo state of the environment, ing to a Gallup poll r today.

Seventy-three per cent s hre very concerned and 22 per cent said they w what concerned about t the poll shows.

This indicates that a di dults have

to the greenhouse effect. Carbon Dioxide (CO_2), Nitrous Oxide (NO_2) and Chlorofluorocarbons (CFC's), are produced by the industrial and transportation sectors. These and other man-made emissions have many air quality consequences:

- acid rain affects soils, lakes, trees and human health;
- ozone depletion caused by chlorofluorocarbons increases the incidence of skin cancer;
- urban air pollution affects human health by raising the incidence of cancer and respiratory diseases;
- smog, increasingly evident in the urban sky, causes damage to crops, trees and property; and
- urbanization, by paving surfaces, warms the urban climate in winter and summer and produces a heat island effect.

Automobiles are the single largest contributor to the greenhouse effect. Although vehicle emission standards have reduced emissions from cars, the average Canadian car still emits over 4000 kilograms of carbon dioxide, almost 35 kilograms of hydro carbons and nearly 30 kilograms of nitrogen oxides each year. Operating a single bus instead of 50 cars, reduces air pollution by 10 to 25 times. (Canadian Urban Transit Association Task Force on the Environmental Benefits of Urban Transit, 1990).

In 1988, the City of Toronto was the site of an International

Vehicular emissions are one of the leading sources of air pollution contributing to the greenhouse effect.

Pickering Nuclear Power Plant, Durham Region.

Photo Courtesy of Ontario Hydro

Conference on Global Atmospheric Pollution. The delegates proposed a 20% reduction in CO_2 by the year 2005. Both the City of Toronto and the Government of Canada have adopted that target.

2.2 Transportation

A good transportation system is essential to a successful economy. However, as workers live further from their jobs and as goods travel greater distances for processing or to find markets, air pollution increases as does the potential for hazardous spills. These problems are being recognized internationally. High speed inter-city trains in Japan and Western Europe are reducing the need for auto-travel. Los Angeles proposes to eliminate the internal combustion engine from its streets by early in the next century.

The expanding urban areas of the GTA currently depend upon private automobile and truck travel. Low density development cannot be cost effectively serviced by transit. Moderation of the demand for fossil fuels will require a more co-operative effort in land use decisions and transportation initiatives that recognize the overall environmental impact of gasoline powered cars and trucks.

The use of electric power for vehicles may solve some of the GTA's air quality problems and in the long term, hydrogen powered vehicles also hold promise; however, both rely on electricity generated by Ontario Hydro, using nuclear reactors, hydro and fossil fuels.

2.3 Energy

Canadians, because of climate, geography and lifestyle, are the heaviest users of energy per capita in the world. Ontario Hydro's Balance of Power plan proposes to meet Ontario's demand for energy through the construction of more nuclear power plants, the flooding of lands for hydro projects and the restarting of the Hearn Generating Station. Energy conservation is a practical alternative. As demands for electricity and other fuels (particularly gasoline) rise, the more successful cities are likely to be those that are energy efficient, thereby having greater capacities to deal with energy shortages and/or restrictions.

2.4 Immigration

In 1988, the world population was over 5.0 billion (United Nations, 1988). It is possible that, within one generation, this figure will be 10 to 12 billion. Countries with the highest population increases are unable to provide an acceptable standard of living for their people, resulting in international migration. Canada's relatively small population, large land area and, generally positive world

image, make it a desirable destination for emigrants from such countries. Canada's immigration policies will have significant implications for the GTA.

With declining birth rates, Canada's net population growth depends on immigration. Annual immigration to Canada averaged 132,000 from 1960 to 1986, and Ontario was the destination for over one half of the total (MTPD Research Division, 1989). The GTA is a favoured settlement area because the economy is strong and the community is able to help immigrants adjust to canadian society. Of Metropolitan Toronto's 2.2 million people, 900,000 were born outside Canada. In addition to the previously predominantly British immigration, over 80 ethnic groups are now represented in the GTA.

There will be a greater need for new members of the labour force who can contribute their skills, talents and knowledge to the GTA, as the baby boom generation matures and leaves the labour market.

Immigrants do, however, place demands on social and educational services as they make the transition into Canadian society. Given the importance of immigration for future population growth, expenditures to meet their demands can be expected to increase in the future. The cosmopolitan composition of the GTA requires improvements in multicultural services offered by regional and local governments.

2.5 Economic Forces

Over the last two decades, the economies of the major industrial nations have changed dramatically, primarily as a result of the technological revolution in computers and telecommunications:

- industries with high labour costs have shifted to third world countries or to other low wage areas;

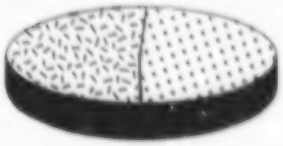
- production increasingly centres on information processing or capital intensive manufacturing;

- global competition and political realignments have resulted in the creation of new trading blocks. Both have also forced the development of national economic policies, a strategy which Canada has not yet adopted;

- offices dependent on electronic communication can locate in a wide variety of places, because physical transmittal of information or face-to-face contact are no longer necessary; and

- technology and the need for greater efficiencies have resulted in grouping of industries in order to supply materials on a "just-in-time" basis, reducing warehousing.

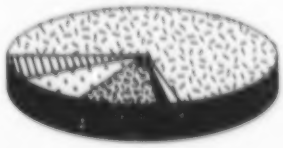
Average Annual Immigration to Canada 1960-1986



Ontario 51% Rest of Canada 49%

Source: *MTPD Research Division, 1989*

Population by Place of Birth in the Greater Toronto Area, 1986



Africa 1% Non Immigrants 66%

Caribbean 3% Europe 21%

Indo-Asia 6% Americas 3%

Source: *Statistics Canada, Census of Canada MTPD Research Division, 1989*

Global competition and technological innovation are creating a vastly different GTA. Much of the GTA's industrial employment base is reorganizing itself into high value-added skilled employment in key sectors where Canadians compete well internationally. The financial, biomedical, fashion and information processing sectors will be major employment generators in the future GTA. Metropolitan Toronto has a well developed telecommunications system, and it will become increasingly important as the GTA competes internationally.

The loss of manufacturing from older industrial areas in Metropolitan Toronto has been evident for many years. Free trade, the demands of "just-in-time" technology and the need for larger, highly accessible sites, may have accelerated this trend. In moving out of Metropolitan Toronto, many firms may choose locations beyond the GTA. The challenge for the surrounding regional municipalities will be to provide an environment for these industries that includes infrastructure, community amenities and housing which match the jobs created.

The environmental movement offers the possibility of a variety of new industrial initiatives. These include firms that:

- manufacture "environmentally friendly" products;
- undertake research and environmental audits;
- act as brokers to find uses for waste products; and
- recycle used materials.

The influence of Metropolitan Toronto as Canada's major financial, government and business centre coincides with the global information economy: an economy based on the value added by collecting, presenting and analyzing information. Working at home, including telecommuting, is a concept that has received relatively little attention so far, even though 30,000 Metropolitan Toronto workers are in this category. It is a trend that can be expected to increase for workers on a part-time, or full-time basis, as employers design systems to take advantage of the attraction of reduced commuting for their workers. Telecommuting will impact on travel patterns and may reduce the projected demand for office space.

Sheridan Research Park, Peel Region.

3.0 URBAN COMPARISONS

The GTA has distinctive qualities as a large metropolitan area which can be compared to other international metropolitan areas. Ten cities have been chosen for this urban comparison.

3.1 UNITED STATES OF AMERICA AND AUSTRALIA

The GTA has a higher urban density than its American or Australian counterparts in this comparison. Chicago's urban form, with a population of 8.1 million, represents the potential urban form of the GTA within 50 years under an auto-oriented low density pattern (1750 ppkm^2). Under this scenario, urban growth might consume all of the GTA basin south of the Oak Ridges Moraine. The Los Angeles/Long Beach metropolitan area is similar in size to the entire geographic area of the GTA and has consumed 50% more land per capita than the GTA.

Public transportation use in the GTA is also higher than in the USA. In the USA, road congestion and air pollution are so severe that some steps are now being taken to encourage the use of public transit and discourage the use of the automobile. Chicago has recently introduced a gasoline tax, (four to six cents per gallon) and Los Angeles is embarking on a $10 billion project to resurrect portions of the commuter rail system that was abandoned

Urban Comparisons

Metropolitan Areas	Population	Urban Density (p.p. km2)	Total Vehicles per 1000 People	Modal Split (work trips)*	Local Govt's	International Price Comparison
Metro Toronto	2,200,000	3,500	554	33.3 pub 10.0 w&c	7	69.7
4 Regions (Urban Area)	1,800,000	2,100	n/a	15.2 pub 9.6 w&c	28	n/a**
GTA (Urban Area)	4,000,000	2,700	n/a	25.0 pub 10.0 w&c	35	n/a
Chicago	8,116,000	1,750	518	18.3 pub 6.2 w&c	380	79.1
Frankfurt	2,500,000	5,400	427	19.0 pub 27.0 w&c	46	76.1
Hong Kong	5,396,000	29,330	66	62.2 pub 34.5 w&c	19	57.4
Los Angeles	12,000,000	2,000	667	7.7 pub 4.2 w&c	179	60.5
London	6,800,000	5,630	356	39.0 pub 23.0 w&c	33	80.2
Munich	2,315,899	5,690	398	42.0 pub 20.0 w&c	9	n/a
Paris	8,500,000	4,830	383	39.8 pub 23.8 w&c	8	76.2
San Francisco	5,731,400	1,550	681	17.0 pub 5.5 w&c	110	n/a
Singapore	2,586,000	8,320	115	59.6 pub 15.8 w&c	1	66.5
Sydney	3,358,500	1,760	489	29.5 pub 5.4 w&c	43	66.9

* Pub refers to public transit; w&c refer to walking and cycling.
** n/a means data not available.

Metropolitan area refers to the urban area of each region.

Sources:

Metro, 4 regions & the GTA: *Population & urban density -- MTPD Research Division. Modal Splits -- Data Management Group. Transportation Tomorrow Survey: Travel Survey Summary for the GTA, June 1989.*

Other metropolitan areas: *Population & local government -- Institut D'Estudis Metropolitans de Barcelona. Cities: Statistical, Administrative and Graphical Information, 1988. Urban density & modal splits -- Jeffrey Kenworthy and Peter Newman, Cities and Automobile Dependence, 1989.*

All metropolitan areas: *International price comparison - Union Bank of Switzerland (Zurich), Earnings Around the Globe: A Comparison of Purchasing Power in 52 Cities, 1988. International Price Comparison was based on total cost of goods and services (excluding rent & weighted by consumer habits). For total vehicles per 1000 people -- Kenworthy & Newman.*

in 1961. In California, state legislated air quality boards are intervening in car-oriented development proposals to reduce air pollution by requiring private developers and municipalities to implement demand management plans to cut auto use and increase transit use.

The planning issues faced by these metropolitan areas are similar in nature to those facing the GTA: rapid population and employment growth in the suburban areas and related infrastructure requirements, concerns about traffic congestion, environmental degradation and affordable housing. Their ability to deal with these issues and plan on an inter-regional basis is severely constrained by the number and autonomous nature of local governments within these regions. For example, there are over 380 local governments within the Chicago area.

Despite fragmented local governments, this problem does not exist in Sydney, Australia, where the state government is responsible for regional planning. To resolve some of the issues facing Sydney, the state government has implemented a policy of urban intensification and containment.

3.2 Europe and Asia

The GTA has lower densities and public transportation use than its European and Asian counterparts (Hong Kong represents the extreme in both categories). The urbanized area of the GTA (1500 square kilometres) is not significantly less than that of the Greater London Area (1600 square kilometres); however, the Greater London Area contains 2.5 million more people.

A characteristic of European metropolitan areas is the emphasis on trains as a predominant form of public transportation, for both high speed commuter and inter-regional travel. Both Frankfurt and Paris as well as other european centres, such as Lyon, are linked by a high speed rail system, which offers a long distance alternative to automobile and air travel.

The emphasis on walking and cycling as well as public transportation within comparable European metropolitan areas reflects a more favourable winter climate and an urban density and design oriented to non-vehicular transportation; Munich's downtown, for example, is a pedestrian precinct. Munich demonstrates that increased density levels (5700 ppkm^2 overall and 16000 ppkm^2 in the central area) not only provide transportation benefits but can also contribute to an attractive and liveable urban environment.

4.0 GTA Planning Initiatives

As early as 1943, Dr. E. G. Faludi, in preparing a plan for the City of Toronto, presented a land use and transportation context which included all of what is today Metropolitan Toronto. Since that time, a number of planning strategies have been formulated for Metropolitan Toronto and the GTA.

4.1 Metropolitan Toronto

4.1.1 1959 Draft Metropolitan Toronto Official Plan

When the Province established Metropolitan Toronto in 1953, it created a planning area three times the size of the municipality to avoid the problem of "leapfrog" development beyond Metropolitan Toronto's boundaries. After six years, the first Metropolitan Toronto plan was presented. The plan's projected population of 2.8 million for the large planning area in 1980 was remarkably close to the actual population that developed.

The plan proposed a broad ribbon of urban development along Lake Ontario with limited expansion northward along the Yonge Street corridor. All development was to have full municipal services with new treatment plants to be located on the Lake Ontario shoreline. The high density central area was to be served by rapid transit; the suburbs were to include a range of densities within each neighbourhood in order to reduce the overall size of the urban area.

Employment areas were proposed throughout the planning area to allow opportunity for good live/work relationships. A road and expressway grid, including the Spadina and Crosstown expressways, was to serve the central area, and another grid was to serve the suburban areas. The major river valleys and waterfront were to be set aside for recreational purposes.

The plan's policy to restrain development by the rate of expansion of piped services was the most significant tool in ensuring the success of planning in the urban region and a major factor in Metropolitan Toronto's ability to establish a high performance transit system.

Formal approval of the 1959 plan proved to be impossible due to opposition of the municipalities outside Metropolitan Toronto to adoption of a plan prepared by another jurisdiction. Even so, the plan succeeded in achieving most of its objectives as public spending and local by-laws followed its general direction.

4.1.2 1966 Draft Metropolitan Toronto Official Plan

In response to opposition to the previous draft plan, a considerably scaled down version was

published in 1966 and was adopted as a statement of policy by Metropolitan Toronto Council. The underlying principles of both plans were the same. The 1966 draft plan was intended to form the basis for detailed district plans prepared by the area municipalities.

The pattern of development established by the Metropolitan plans was maintained until recent years when significant growth in York Region and in the Brampton/Bramalea area spread beyond the anticipated boundaries of the GTA.

4.2 PROVINCIAL INITIATIVES

Between the mid-1960's and mid-1970's, the Province published a number of strategies for the GTA.

The first of these was the **Metropolitan Toronto and Region Transportation Study (MTARTS),** published in 1967. Intended as a transportation study, the framework expanded to consider land use/transportation interactions. The preferred scenario was a two tier urban structure along Lake Ontario, separated by a parkway belt and served by lake-based treatment facilities.

Design for Development: The Toronto-Centred Region (published in 1970) was a direct offshoot of the MTARTS study. However, the study area was broadened extensively (extending as far north as Georgian Bay), and created an unwieldy planning area. The TCR plan also proposed two tiers of urban communities, parallel to the lake and separated by a parkway belt. The plan had a strong east-west configuration between Oshawa and Hamilton, but proposed to restrain development in the Yonge Street corridor.

The general nature of the TCR plan left uncertainty about development directions and was criticized for a lack of municipal input. In response, in 1974 a provincial/municipal team presented the **Central Ontario Lakeshore Urban Complex Plan (COLUC),** covering a smaller area than TCR.

COLUC maintained the structure of TCR, but defined transportation linkages and mature state populations for each of the urban areas. Two scenarios were developed. The preferred plan emphasized a strong eastward thrust, while the other outlined minimum levels of achievement if major growth eastward did not occur.

In proposing a two tier structure and major eastward growth, the provincial plans went counter to trends which favoured a development push to the west and north. Success was dependent on supportive infrastructure commitments by the Province.

Both TCR and COLUC suffered when it came to implemen-

tation. Neither plan had statutory authority and both provincial and local actions soon varied from the plans. For example:

- in 1976, GO Rail was established. The radial pattern inevitably emphasized growth in central Toronto at the expense of nodal development elsewhere in the GTA;

- in the mid 1970's, the Province announced that no monies would be spent on infrastructure to serve the Pickering airport. This would have provided added impetus for eastern development; and

- in the early 1980's, the York-Durham sewer system was completed which opened up more lands for development north of Metropolitan Toronto.

By the late 1970's, the Regional Planning Branch of the provincial Ministry of Treasury, Economics and Intergovernmental Affairs was disbanded and the emphasis for coordinating regional growth was placed on the regional official plans.

4.3 Emergence of the Regions

In the early 1970's, the Metropolitan Toronto Planning Area was redefined to coincide with the municipal boundaries between Metropolitan Toronto and the newly established regional municipalities of York, Peel and Durham.

In 1974, Metropolitan Toronto published **Choices For The Future**, a summary volume in the Metropolitan Transportation Plan Review. The report outlined a series of transportation scenarios based on different land use configurations and analyzed the implications and infrastructure requirements of each.

Publication of this report coincided with the start of a new Metropolitan Official Plan. This plan, approved in 1980, built upon the nodal or centres concept of the transportation plan. The intent was to provide a series of 'mini-downtowns' to counterbalance the attraction of the downtown, and to provide a greater spread of high order jobs and services oriented to the rapid transit system.

Two other regions, Durham and Halton, have also achieved success in structuring their urban areas through approved regional official plans.

4.4 Recent GTA Initiatives

Recently, the Province has undertaken a number of separate initiatives to address the increasingly apparent problems of congestion, housing/employment imbalance and environmental degradation within the GTA:

- the GTA Transportation Planning Forum provided the basis

Toward a New Metropolitan Toronto Official Plan

Metropolitan Toronto is reviewing the future directions of its social, economic, corporate and physical development policy. The Economic Development Strategy is in place, the Metropolitan Plan is being reviewed, a new Social Development Strategy and a Strategic Plan for the Corporation are being developed.

The majority of the Metropolitan Plan Review Background Reports have now been published and suggest certain development directions:

- The ***Housing Intensification*** report discusses the need for a minimum of 300,000 more housing units that are geared to the population's future needs.

- The ***Centres and Office Areas*** report indicates that Centres are succeeding in creating job opportunities within Metropolitan Toronto at mixed-use key locations on transit; and new Centres on rapid transit should be developed;

- The ***Industrial Areas*** report suggests that industrial areas require protection from competing uses and policy support as the Changing Metropolitan Economy impacts industry;

- The ***Dynamics of the Greater Toronto Office Market*** report examines the changes occurring in the location of offices in a GTA context.

- The ***Parks and Open Space*** report looks at the major valleys and the waterfront that form the basis of the Metropolitan Toronto parks system and discusses how they should be expanded to ensure continuous links. A new Metropolitan Waterfront Plan is being prepared;

- The ***Heritage*** report proposes a new program to promote Metropolitan Toronto's heritage buildings, structures, natural and geologic sites.

- The ***Central Area Transportation Issues*** report examines the problems and opportunities for improving movements downtown;

- The ***Metropolitan Roads*** report looks at special measures to improve road efficiency including such measures as High Occupancy Vehicle lanes;

Upcoming reports on the ***Urban Environment*** and ***Civic Design*** are due to be published in late 1990. Copies of the full reports may be obtained by contacting the Metropolitan Planning Department.

for the decision to advance construction of Highway 407;

- the Provincial/Municipal Waste Management Committee;

- the Land Use Planning for Housing Policy Statement;

- the Greater Toronto Greenlands Strategy; and

- the 'Lets Move' transportation announcement.

All these initiatives respond to important planning issues, but they lack a framework or context within which decisions regarding the future urban form can be made. Each responds to a particular issue but the implications for other initiatives are not addressed. The weaknesses of pursuing separate initiatives include:

- conflicting and/or inappropriate strategies may be pursued concurrently;

- opportunities to link services in a cost effective manner may be lost; and

- environmental resources may be lost or degraded through ad hoc decision making.

These issues illustrate the need to develop a broad concept and strategy for the future GTA as a framework for municipal growth.

5.0 GOALS FOR REGIONAL DEVELOPMENT

To plan effectively, there must be a broad consensus on goals and objectives for the GTA. Too often, the emphasis on one goal, such as economic success, is at the expense of other social and environmental goals. To emphasize one set of goals at the expense of another creates an imbalance which adversely affects the overall quality of life.

The challenge is to achieve a balanced integration of human activity, urban growth and technological change with the preservation of the natural environment and quality of life to maintain a "liveable metropolis".

The complexity of this issue leads to the need to explore new ideas. The concept of sustainable development defined earlier in this report, provides a framework for goals for regional development to ensure an overall quality of life.

This framework includes the following principles:

- existing eco-systems and life support systems must be maintained and enhanced. More efficient use of natural resources must be achieved;

- biological diversity and natural wildlife habitats must be protected and enhanced;

human activity and population must be supportable by the global biosphere. All policies should be aimed at net environmental gain, where losses to the environment are compensated elsewhere in the ecosystem;

- the decision making process at the bureaucratic, political and individual level, should incorporate environmental considerations into future programmes and projects;

- decision making must incorporate the notion of inter-generational equity and not reduce the options available to future generations;

- sustainability initiatives require policy integration and coordination at all governmental levels and with private and non-governmental organizations; and

- sustainability requires an open accessible political process.

In order to further the concept of sustainable development and to improve the overall quality of life, the following goals are proposed as being suitable for the GTA.

5.1 Environment: Natural & Built Form

- promote the wise stewardship of the GTA's land base and natural resources;

- develop an ecosystem perspective in planning for the environment of the GTA;

- protect and enhance the major natural features of the environment, including the Niagara Escarpment, Oak Ridges Moraine, major creeks and river valleys, waterfront areas and prime agricultural land;

- protect environmentally significant areas: wild life habitats, woodlands and marsh areas;

- achieve accessible open space systems and recreational opportunities;

- restore soil, water and air quality through measures designed to reduce noxious emissions from the urban environment;

- achieve consensus on development of the GTA waterfront, including resolution of competing demands for industry, housing and recreation;

- preserve or create areas which provide a sense of identity and multi-cultural diversity within the built environment and provide access to a variety of services;

- enhance the pedestrian environment to encourage enjoyment of urban areas; and

- preserve heritage structures and landscapes which provide a sense of continuity for future inhabitants;

5.2 Social Well-Being

- provide choice in residential location in relation to tenure, cost and form of development throughout the GTA;

- provide an urban environment which meets the needs of persons with disabilities, the elderly and persons in care;

- improve accessibility between residential, employment and other activities;

- promote land use patterns which foster neighbourhood identity and the sense of community;

- provide a range of neighbourhood community and regional services, and cultural and recreational facilities that are accessible to all residents;

- promote a healthy and safe urban environment which creates opportunities for social interaction; and

• provide specialised and post-secondary educational opportunities that meet future work-force needs available to residents of the region.

5.3 Economic Opportunities

• support viable economic activities throughout the GTA to meet changing economic conditions;

• provide energy efficient transportation linkages which support live/work relationships including bicycle and pedestrian paths for shorter trips within the urban area;

• develop a balanced integrated and competitive system of roads, municipal transit, commuter rail services, airports and ports to serve the GTA;

• provide for the development of housing/employment concentrations capable of being served by transit;

• establish regional co-operation in planning major transportation facilities;

• develop land use patterns and densities which allow efficient use of piped services and existing infrastructure;

• target economic export oriented activities suited to the GTA, including high value-added industry, research and development firms, and international head offices and tourism; and

• attract and maintain the workforce by provision of housing types suited to households of varying income in locations accessible to the workplace.

6.0 Policy Directions: The Choices Facing the GTA

The previous section outlines the goals that are important from Metropolitan Toronto's perspective.

These goals are part of a framework designed to improve the quality of life for all residents of the GTA, to increase employment and housing opportunities within the GTA, to protect the environment and to help achieve sustainability of renewable and non-renewable resources.

To achieve these goals, choices must be made concerning the planning and management of the natural environment, the system of transportation within the GTA and the location and types of housing and employment. The decisions made in these areas will ultimately translate into a preferred urban form.

6.1 Natural Environment

Integral to sustainable development is the way in which the region's resources are managed to ensure their availability for future generations. The fundamental goal is the wise stewardship of the GTA's natural resource and land base.

Central to environmental management is the relative priority given to development over the conservation and restoration of natural features and the land base. There are essentially three options:

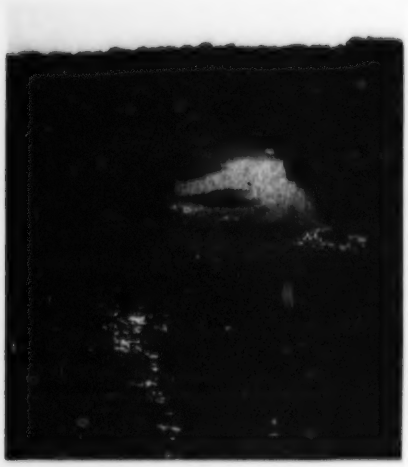
- the first may be termed a laissez faire approach to environmental management, in which the protection and stewardship of the environment are dependent on market forces;

- the second emphasizes environmental management to meet the needs of economic growth and urban expansion. Environmental management ensures that proposed developments mitigate any adverse site specific impacts; and

- the third places the stewardship of the natural environment within the GTA as an equally high, if not higher, priority than economic prosperity or social fulfilment.

6.1.1 Natural Environment Option 1: Laissez Faire Environmental Management

Under this approach, resource depletion and environmental degradation are considered necessary consequences of economic prosperity. There is minimal government intervention and regulation and environmental management is left to the discretion of the private sector. Government involvement is primarily confined to dealing with the adverse environmental consequences of development, such as the pollution of water resources.



The Humber River Valley, Metropolitan Toronto.

This is an approach that, in general, has long been abandoned in Ontario. The costs to society of dealing with the environmental consequences of unfettered development are no longer considered acceptable except in times of economic hardship when jobs are at stake.

6.1.2 Natural Environment Option 2: Continuation of Current Philosophy

2

Under this option, the natural environment would be managed through current practices. Most of the GTA municipalities have environmental policies aimed at the protection of the area's natural resources: the aggregate resources of Peel, York, Durham and Halton, the high capability agricultural land throughout the GTA, as well as the significant natural areas of the moraine, the escarpment and the river valleys.

The drawback of the current approach is that, despite the stated aim of environmental management, urban development has continued to encroach on these significant resources. Every year within the GTA, development is approved on good farmland, on the moraine and along valley banks, often with little consideration of the overall cumulative impact on the natural environment of the larger GTA.

Many of these changes reflect the assumption that the accommodation of population growth and continued economic health requires expansion of urbanareas.

These changes are also based on the premise that the preservation of certain GTA resources is unnecessary. For example, it may be more practical to assume that future agricultural needs will be met through imports, or changes in technology, rather than through protection of the prime agricultural land in the GTA. The difficulty with this approach is that once the land resource is consumed the options available in the future are curtailed, possibly without sufficient justification.

This policy option allows continuing degradation of air and water quality. Automotive/industrial emissions and storm water pollution of the rivers and beaches are among the worst problems not being properly addressed under the existing approach.

6.1.3 Natural Environment Option 3: An Environmental Framework

3

This option proposes that the natural resources of the GTA should be considered as an essential framework within which the key elements are protected from development and planned for as continuous interregional systems.

The conservation of the GTA land base is important for future flexibility

The river valleys form an important component of the environmental framework for the GTA

The land use pattern generates trips which leads to transportation needs. How we meet these needs through the transportation network affects accessibility which in turn dictates the land use pattern. Each component of this cycle has environmental consequences.

The key elements of this framework would be:

- the Oak Ridges Moraine;
- the Niagara Escarpment;
- Class 1, 2 and 3 agricultural capability land;
- major river valleys, the Bronte, Credit, Humber, Don, Rouge Rivers and Duffins, Oshawa, Bowmanville and Wilmot Creeks; and
- a certain percentage of forest cover related to the need to reduce CO_2, to provide temperature modification and to meet water quality and quantity objectives.

Strategies should be employed to minimize the need to extract aggregate resources, as well as specific strategies to reforest and reintroduce marsh systems in the watershed.

Development reviews should include an assessment of environmental impacts, both on-site and as a portion of the cumulative cost of urbanization, so that net environmental gain would be realized.

This option proposes that the conservation of the GTA's undeveloped land base is important for maintaining flexibility for future generations. Alternatives to land consumption are necessary.

Adoption of an environmental framework, which emphasizes the importance of the natural systems, suggests that urban growth should be:

- channelled away from these areas; and
- accommodated through means such as intensification and renewal of the existing urban area rather than through urban expansion.

An environmental framework approach also suggests that the natural resources of the GTA should be planned for, and managed, on a broader GTA level, rather than at an individual municipal level. The Royal Commission on the Future of the Toronto Waterfront and the provincial Greenlands Strategy reflect the beginnings of this approach.

6.2 TRANSPORTATION

Transportation provides the necessary linkages between related land uses. The location and density of development directly affects the choice of new transportation systems. Poor transportation decisions can negatively affect society's ability to achieve a sustainable and liveable environment. More land is consumed for facilities, more air pollution is generated, more energy is used than necessary and the transportation network is more congested.

A key variable is technology which is rapidly changing. The gasoline-powered internal combustion vehicle may be replaced by alternative vehicles powered by other fuels or by electricity. This would reduce pollution but not congestion. Telecommuting may also have an impact on the transportation needs of the GTA. If people can work at home, and be linked to work technologically, the need for physical commuting is reduced. Clearly, technological change will affect the transportation options that are available to assist in achieving the goal of sustainable development.

The automobile offers great flexibility and is a necessary form of transportation for many people. However, heavy dependence on one form of transportation lessens an urban area's ability to respond to changes in environmental conditions. Consequently, the key policy issue is the desirable balance between the use of the automobile and other forms of transportation.

There are essentially three policy choices:

- the continuation of the existing pattern of transportation;
- an increase in the use of non-automobile transportation; or
- a more complete re-orientation towards transit within the GTA.

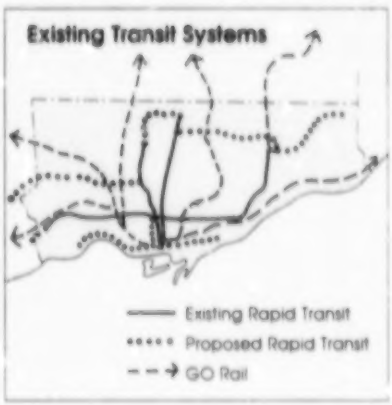
6.2.1 Transportation Option 1: Continuation of the Existing Modal Split

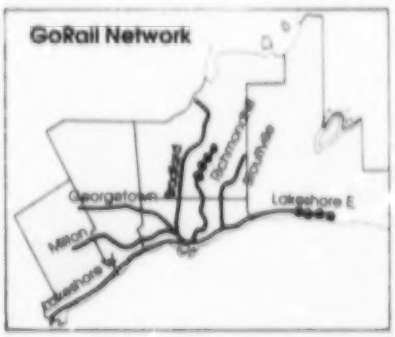
In 1986, 29% of all trips within the GTA, over a 24 hour period were made by transit, foot or cycle. 71% were made by automobile. One option would be not to initiate any policy directions to change these trends.

Essentially, the "Let's Move" strategy, announced by the Province in 1990, is required to maintain the current modal split. The proposed investment legitimately addresses past problems and programs, but is insufficient to serve all future needs.

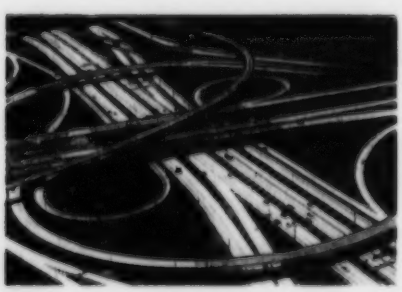
Under a continuation of the existing transportation pattern, transit would be used for two key purposes: all-purpose travel within Metropolitan Toronto, and regional commuting to the City of Toronto's central area (GO Rail).

Inter-regional transit improvements would focus on GO Rail. Because of GO Rail's radial pattern, these improvements would continue to encourage the use of transit to the central area. Instituting "two-way" service on a number of lines would provide the opportunity for cross-regional travel and the establishment of housing/employment concentrations at nodal points along the GO Rail system. However, this po-





Major Freeways Within the GTA



Dependence upon the automobile will require continuing major investment in the GTA's grid highway system

tential is limited unless significant land use changes occur.

Under a continuation of the existing modal split, trips within most areas of the GTA would continue to be by automobile. The provincial strategy accepts this continued emphasis on the automobile within the regions. It also recognizes the trend in industrial sectors within the GTA to "just-in-time" technology with its associated dependence on truck transport.

The provincial strategy proposes major investments in the GTA's grid highway system, including the construction of Highway 407. Completion of Highway 407, despite the need to relieve congestion, may create pressure for further development which will be automobile oriented. Eventually, if emphasis on the automobile within the GTA continues at its present rate, additional east-west highway linkages may be required in a corridor north of the current urban envelope.

Maintainance of the current balance between transit and automobile is an option many residents of the GTA would favour. The automobile is convenient, comfortable and fast. It is the mode of transportation that has allowed people to enjoy low density living over the past few decades, and to blend urban and rural life. It has facilitated the movement of employment out of the central areas into locations, well served by inter-regional highway and the GTA airports, but poorly served by transit.

It is unlikely, however, that this convenience can be maintained. There is a physical limit to possible improvements to the GTA's inter-regional highway network and municipal road networks. Metropolitan Toronto has reached that point. Other parts of the GTA may face similar problems over the next 20 years.

Pursuing this option does not maximize the potential to achieve the overall goal of sustainable development. Unless the pollution and non-renewable energy consumption associated with the automobile are overcome through technological means, the environmentally negative impacts of automobile use will be perpetuated.

6.1.2 Transportation Option 2: Increased Use of Transit and Other Forms of Non-Automobile Transportation

Rather than continuance of the current modal split, another policy option would be to implement strategies to change the daily modal split from the current level of 29% non-automobile, to a significantly higher level, perhaps 35%.

The initial focus would be on the development of transit opportunities for non-central area Metropolitan Toronto trips, both intra-Metropolitan Toronto, for example, North York to Scarborough and inter-regional, for example, Mississauga to Etobicoke.

The second and related initiative would be to develop further transit opportunities within, and between, the regions outside of Metropolitan Toronto and the immediately adjacent urban areas.

This policy option requires significant financial investment in transit infrastructure, far in excess of that currently planned under the provincial "Let's Move" initiative. This option would require efforts to "front end" the investment in the transit network, in advance of development. This entails significantly higher initial transit operating subsidies and a co-ordinated land use and development policy.

Several land use strategies would be part of this option:

- the creation of medium density areas or corridors, which could be served by surface transit;

- the clustering of high employment/housing densities at rapid transit stations; and

- generally locating employment areas and residential areas closer together, to encourage walking and cycling.

A key strategy would be the creation of regional transit systems across the GTA to complement the extended GO network. It requires time to establish cross-regional transit in areas within the GTA not currently served by transit. Regional transit in all the GTA regions would help to ensure coordination, to improve service and to promote transit oriented development. Future options might be the establishment of a GTA-based transit authority or a regional transit union.

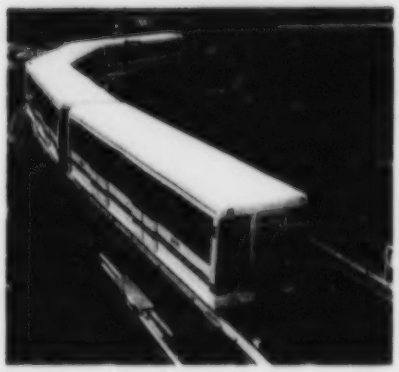
There are a number of advantages to this policy option:

- increasing the number of trips which are made by transit and other forms of transportation, rather than by automobile, helps to reduce air pollution and energy consumption;

- providing a choice of transportation to commuters would potentially reduce congestion within Metropolitan Toronto, and the capacity of the major highways would be available to traffic that has no other option;

- it provides more flexibility for dealing with unforseen or rapid changes in the environment; and

- it may support the more



Scarborough Light Rapid Transit System

Eglinton/Davisville corridor, Metropolitan Toronto

balanced distribution of employment throughout the GTA, by providing greater accessibility in more areas.

The challenges of moving to a greater emphasis on transit are:

- major public financial investment is required, undoubtedly at the expense of the road network, which may not be publicly acceptable;

- the types of land use changes required must be well planned and designed, if they are to be acceptable to the majority of residents, who have traditionally enjoyed low density living; and

- the provision of poorly planned, inconvenient and/or congested transit is not an acceptable alternative to the automobile. The transit provided must be an attractive alternative, one which contributes to the overall liveability of the GTA.

6.2.3 Transportation Option 3: the Transit Region

The third transportation framework is one in which transit predominates as the major form of transportation within the GTA. This implies shifting the modal split still further by targeting an increase in transit, walking, and cycling to over 50% of all trips (from 29%).

The principal advantages are air quality improvement, reduced enargy consumption and improved transit throughout the GTA

To accomplish this modal split, major disincentives to automobile use would be required as well as major transit and land use initiatives. These could include such mechanisms as tolls, increased gasoline taxes, reserved lanes for truck traffic and cars with multiple occupants. It could also include other major restrictions on the use of the automobile, such as the prohibition of non-essential vehicles in downtown areas.

An extreme disincentive would be to consciously halt further expenditures on highways, and to allow deteriorating conditions and congestion to force a switch in mode. While, in theory, this policy choice may have some appeal, it is impractical for those who live in the low density suburbs. Not only does the highway network provide inter-regional transportation for the GTA, but it also serves the provincial transfer of goods and services and accommodates truck traffic associated with "just-in-time" technology. For the health of the provincial and regional economies, an efficient highway system must be maintained.

Perhaps the key weakness of this policy option is that it does not offer sufficient choice to resi-

dents and the economic sectors of the GTA.

6.3 Employment

Over the next 20 years, it is projected that more than one million new jobs will be created in the GTA (Statistics Canada and MTPD, Research Division, 1989). How, and where, these jobs are distributed, will have a major impact on the ability to implement sustainable development initiatives. Three different employment directions are:

- continuing employment dominance by Metropolitan Toronto;
- shifting some proportion of the anticipated growth in employment out of Metropolitan Toronto to the regions; and
- a concerted strategy to deconcentrate employment out of Metropolitan Toronto into the surrounding regions.

The ability to comprehensively develop, and implement locational strategies for employment is seriously hindered by the current property tax system, which makes it financially imperative for municipalities to attract as many employment generators as possible and to resist their loss.

6.3.1 Employment Option 1: Continued Dominance by Metropolitan Toronto

Over the next 20 years, it is projected that there will be over 600,000 new jobs created in the four regions outside Metropolitan Toronto. Metropolitan Toronto's share of overall employment will drop. Despite this drop, over half the total jobs in the GTA are projected to be within Metropolitan Toronto, particularly office employment (Statistics Canada and MTPD, 1989). This may result in increased commuting of well over 220,000 employees into Metropolitan Toronto, an increase of over 83% from 1986 (MTPD Research Division, 1989).

Within Metropolitan Toronto, approximately two thirds of office growth is projected to be in locations well served by transit (MTPD Industrial Areas Report, 1988). Approximately one third will be located in areas not as well serviced by transit, such as office development in the interior of industrial areas.

Industrial and office development within the regions could be dispersed or located within low density industrial/office parks, with some employment growth concentrated in centres serviced by transit, such as the Mississauga City Centre.

View of the Toronto central employment area

In 1986, 88% of all work trips outside Metropolitan Toronto over a 24 hour period were by automobile (Transportation Tomorrow Survey, 1989). The dispersal of employment opportunities throughout the GTA, even within low density office parks, would require ongoing reliance on the automobile for work trips and the need for continued emphasis on investment in highway networks.

Unless there is a match between housing type and cost and employment opportunities throughout the GTA, extensive cross-regional commuting of the labour force would be likely to continue, predominately by automobile.

Mississauga City Centre

6.3.2 Employment Option 2: Increasing Employment in the Regions Outside Metropolitan Toronto

One way to reduce long distance in-commuting into Metropolitan Toronto would be to shift more office employment growth out into the regions. This could be done by:

- by curtailing growth in office development in industrial areas and other areas poorly served by transit; or

- by placing a ceiling on the rate of additional office growth permitted in the central area.

Complementing this strategy would be the continuing implementation of the Metropolitan Toronto's Economic Development Strategy, aimed at targeting growth in those economic sectors uniquely suited to a Metropolitan Toronto location.

An estimated 25,000 additional jobs could be shifted by restricting office growth in non-transit areas. If a ceiling of one million square feet per annum were placed on the central area, this would reduce the anticipated growth of the central area, until 2011, by 50,000 jobs. In total, 75,000 office jobs, or 15% of Metropolitan Toronto's anticipated employment growth, would be available to be shifted elsewhere in the GTA, both to centres within Metropolitan Toronto and outside of Metropolitan Toronto. Such a move would add significantly to the four regions' employment growth over the next 20 years.

Shifting these jobs out to the regions may help to reduce in-commuting to Metropolitan Toronto. Whether these jobs would be served by transit depends on their location.

All this extra growth may not be accommodated within existing centres serviced by existing transit. Two options exist:

• dispersal to auto-oriented locations; or

• concentration within a network of employment centres.

Under the latter alternative, new employment centres could be created at key points along the GO Rail lines, for example, along the Milton line around Meadowvale, the 401 and Winston Churchill Blvd., the Langstaff lands in Richmond Hill, and East Markham. While some of these areas are already proposed as employment areas, increased densities would further support the possibility of rapid transit to serve these areas.

Creating an inter-regional network of employment nodes or "centres" would, in theory, facilitate the use of transit for work trips. However it may be unrealistic to think this transit objective could be achieved over the next 20 years. It is a relatively short period of time to make fundamental changes in patterns of growth and transit use.

The major challenges include:

• achieving a reasonable magnitude of office growth within transit-oriented centres throughout the GTA. A deliberate centres strategy is required, similar to Metropolitan Toronto's centres policy. Even with such a strategy, an ambitious objective would be 50% of new office growth in centres. Within Metropolitan Toronto, 66% of office growth, since the 1980 introduction of the policy, has been in centres but most of this has been in the central area. Growth in centres outside the central area has accounted for only 39%, office parks 15%, and dispersed locations 46% (MTPD Centres Report, 1989);

• encouraging a modal split of 35% non-automobile in-commuting to these centres. A major financial commitment would be required to put transit facilities in place before sufficient demand exists. Despite a centres strategy, the amount of transit use that can reasonably be expected within these regional office centres may not be sufficient to make transit cost-effective. The recent Dynamics of the Greater Toronto Office Market study, commissioned by Metropolitan Toronto, indicated that the modal split for the Mississauga City Centre was just over 11% transit, and the modal split for the North York Centre was slightly over 26% transit; and

• achieving an inter-regional structure of transit oriented office centres. This requires an inter-regional transit strategy and transit systems, neither of which currently exists outside of Metropolitan Toronto and GO Rail.

The length of work trips may be reduced under this option. This

Meadowvale GO Station, Mississauga

would depend on whether the type and price of housing, near to the employment centres, match the income and lifestyle needs of employees. It also depends on the extent to which these areas of employment and housing are effectively linked by transit and roads.

6.3.3 Employment Option 3: Further Deconcentration of Employment Out of Metropolitan Toronto

A more extreme strategy than Option 2 would be one that attempted to shift a greater proportion of projected employment growth out of Metropolitan Toronto into the surrounding regions, and to encourage the relocation of existing employment.

If implemented properly, this strategy could result in a more balanced ratio between employment and population in the various parts of the GTA. Potentially, this would reduce commuting.

To achieve the objective of moving employment growth out of Metropolitan Toronto into the regions, several actions are critical, including:

- reforms in the property tax system to overcome the financial predicament that municipalities face in controlling employment growth; and
- the establishment of a vehicle for the inter-regional coordination of economic development within the GTA.

Another difficulty is the limited ability of government to intervene in private sector location decisions. Adopting this employment strategy might discourage some employers from locating in the GTA. In addition, many employers benefit from interaction efficiencies which would be lost if they were forced to decentralize from the central area.

6.4 Housing

The overall goal is to provide a range of housing opportunities for the residents of the GTA, in a manner that minimizes unnecessary land consumption and at densities that support a transit system. The key choices relate to the density, type and mix of housing. Three options are:

- no major changes in the current density of the housing stock. Market forces would be the prime determinant of density levels;
- policy initiatives to increase densities across the GTA; or
- policy initiatives to focus major housing density increases in certain locations in the GTA.

6.4.1 Housing Option 1: Continuation of Current Market Trends

Increases in housing stock would take place in two ways. Within Metropolitan Toronto, new housing stock would continue to be created by increasing the overall density through redevelopment and intensification. Metropolitan Toronto could accommodate a minimum of 2.5 million persons through intensification. With the development of key sites, and a coordinated municipal strategy to increase densities in new and redevelopment projects, it would be possible to accommodate larger population increases. The gross urban density in Metropolitan Toronto should rise to over 4000 ppkm^2, an acceptable density for transit.

In the regions, new housing stock would continue to be provided through lower density development in "green field" situations. An increasing proportion of intensification would occur over time but the average urban density would still be in the 2000 ppkm^2 range, well below meaningful transit thresholds.

Low density single family housing development in the regions surrounding Metropolitan Toronto has been provided in response to the traditional market demand. Many people move into the regions because they desire the lifestyle associated with low density development. Unfortunately, such a housing pattern is non-sustainable because:

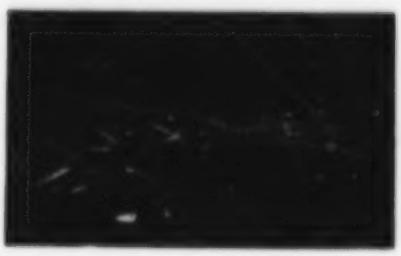
- it perpetuates reliance on the automobile rather than transit, creating congestion, air pollution, and high per capita energy consumption;

- it is unaffordable for many GTA households; and

- it is increasingly mismatched to the household characteristics of the population.

There are other significant social consequences of continuation of the current housing pattern. Traditionally, socially assisted housing has been provided in higher density housing forms linked to nearby facilities and served by transit. Metropolitan Toronto currently provides 76% of the GTA's social housing stock, a disproportionate share when compared to population and income levels. Peel contains the only other major stock of social housing.

Although this situation is related to other factors as well as density, the options to provide reasonable amounts of socially assisted housing in an integrated fashion are more limited in a low density housing pattern.



A typical low density sub-division in the GTA

Main Street development

6.4.2 Housing Option 2: Housing Intensification

An alternative direction would be to generally increase residential densities across the GTA, not only in Metropolitan Toronto, but also throughout the other regions.

In Metropolitan Toronto, new housing stock would be created through intensification, conversion and infill. Similar strategies could be applied in the surrounding regions. In new areas, the general density would increase by broadening the housing mix and adjusting setbacks, coverages and lot sizes.

The emphasis would be on increasing the amount of medium density housing, and on the provision of smaller, more compact, single family housing developments.

Increasing residential densities throughout the urban areas has several advantages:

- it supports transit. If an overall density of 4000 ppkm^2 were targeted within the residential areas, transit could become viable in many areas of the GTA;

- it broadens the range of housing types and tenures to meet projected household and employment needs;

- it promotes a more efficient use of the existing servicing infrastructure; and

- it conserves the consumption of land, thereby retaining the land base for future generations and thus is a more sustainable pattern of development.

There are weaknesses:

- the implementation of this policy within many existing residential areas would be politically, physically and financially impractical;

- the reduction in the overall growth in the supply of traditional single family housing stock may lead to increases in the price of this type of housing; and

- a reduced supply of single family housing may encourage people to live outside the GTA, and contribute to more long distance automobile commuting.

These disadvantages may be minimized only if the supply of medium density housing is seen by the potential home buyer and at the political level, as an attractive living arrangement alternative, in keeping with the goal of improving the overall quality of life within the GTA. The design of such medium density housing is critical.

6.4.3 Housing Option 3: Focused Density Increases

Alternatively, density increases could be focused in key locations within the GTA. The resultant pattern would be low density throughout much of the GTA, but with major concentrations of high density housing in certain areas, for example, around rapid transit stations.

This pattern would facilitate transit in the higher density areas, but areas elsewhere would remain dependent on the automobile.

Such an extreme density pattern does not provide the choice in housing types that might be available under a more balanced mix of low, medium and high density options.

Concentrated high density residential development is one aspect of urban form which has often been associated negatively with the deterioration in the overall quality of urban life. Therefore, this kind of extreme density pattern may conflict with the overall goal of improving the quality of urban life, and may not be publicly acceptable.

6.5 The Preferred Policy Framework

Each of the policy choices have advantages and disadvantages with respect to the goals described in this report. A policy framework which appears most supportive of the overall theme of sustainable development, the enhancement of the quality of life, and the related environmental, transportation, employment and housing goals is one which attempts to:

- establish an environmental framework (Natural Environment Option 3);

- increase the use of transit and other non-automotive forms of transportation (Transportation Option 2);

- distribute increased employment outside Metropolitan Toronto into a "Centres" structure (Employment Option 2); and

- increase housing densities throughout the GTA (Housing Option 2).

High density residential development

7.0 How Should the GTA Look? A Preferred Pattern of Growth

The future structure of urban growth within the GTA has implications for the future of Metropolitan Toronto and how it is planned. To achieve the goals described earlier, a preferred pattern of growth for the GTA is one which:

- conserves the consumption and fragmentation of the GTA's natural resources and allows for their management as broad inter-regional systems;

- encourages the greater use of transit and builds upon existing systems;

- better balances the location of employment and housing to help reduce in-commuting to Metropolitan Toronto; and

- maximizes the provision of a variety of housing types.

What urban structure, or pattern of growth, best accommodates these directions? How does it relate to the policy options and preferred policy framework and what does it look like on a map?

Over the years, much effort has been spent in proposing suitable structures for the GTA. Most of the planning schemes for the GTA reflected attempts to design a "two tiered urban structure", a series of distinct communities within the GTA, separated by green belts with an interregional highway and commuter rail system.

None of these schemes has been fully implemented and it is questionable if they serve the GTA's current and future needs.

In 1990, the Greater Toronto Co-ordinating Committee (GTCC) commissioned consultants to study three structural options for the GTA. These options have been presented to the GTA municipalities for discussion. The options under consideration are Spread, Concentration and Nodal. In this section, these scenarios and others are reviewed.

In undertaking this analysis, it should be re-emphasized that the boundaries of the GTA are to an extent, arbitrary. The urban form of the GTA should also be considered as part of the overall settlement pattern of southern Ontario. On this basis, it would be possible to generate a greater number of scenarios than considered here, for example, a tri-polar pattern, with Metropolitan Toronto, the Greater Hamilton area and the Guelph, Kitchener, Waterloo, Cambridge cluster as three poles for growth.

7.1 Current Urban Structure:

The current urban structure of the GTA is a mixture of high population/employment concentrations

or "centres" within Metropolitan Toronto and a few other areas such as the Mississauga City Centre and the historic downtowns of Oshawa, Whitby, Ajax, Pickering, Richmond Hill, Port Credit, Oakville and Burlington. The rest of the urban areas have developed in a low density dispersed pattern. The existing built up area within the GTA covers approximately 1500 km^2

7.2 Future Alternatives:

The existing pattern of development within the GTA limits future options. There are several generic ways of describing possible patterns of growth. Five alternatives are considered here: Sprawl (equivalent to the GTCC Spread model), Fingers, Centres or Nodes and Concentration.

These alternatives differ in two fundamental respects:

- the distribution of growth between Metropolitan Toronto and the external regions; and

- the relative emphasis on greenfield development and continued expansion of the urban envelope, rather than intensification of the existing urban area.

The terms used in this report differ slightly from those used by the GTCC consultants:

- "Existing built up area" generally corresponds to the terms "existing urban area","urban envelope" and "built up area", in the GTCC consultants' report, terms which appear to be used interchangeably;

- "Urban Envelope", refers to those lands designated for development in official plans but not necessarily built upon. The existing 1990 urban envelope is approximately 1900 km^2.

7.3 Alternative 1: Sprawl

Sprawl

- Low density and dispersed growth outside Metropolitan Toronto

This pattern is a continuation of the past trends where growth has taken place in a largely haphazard manner, concentrically out from existing urban areas, along corridors, primarily the Lakeshore and north Yonge street and dispersed throughout the GTA. The term, Sprawl, is used to describe this scenario to differentiate it from the Spread pattern studied by the GTCC consultants. It was felt that growth would not only be accommodated by the adjacent extension of existing urban areas, as suggested by the consultants, but also by leapfrogging and scattered development.

Under the Sprawl scenario, most of the projected population growth would take place in the four regions outside Metropolitan Toronto, with little occurring in Metropolitan Toronto. Metropolitan Toronto's population would increase over the next 20

years to a maximum of 2.3 million, whereas the population in the regions would increase to over 2.9 million.

Development in the regions would typically take place at low densities.

This scenario is, to a great extent, the physical expression of the policy choices outlined under Employment Option 1, Transportation Option 1, Natural Environment Option 2 and Housing Option 1.

7.3.1 **Employment:**

Metropolitan Toronto would continue to contain the major share of employment within the GTA. The likely consequences of this trend would be increased in-commuting from the regions to Metropolitan Toronto for work purposes and increased trip lengths.

It is probable that employment growth in the regions would be dispersed or in low density office/industrial parks. A dispersed pattern of development increases the locational opportunities available to individual employers, but potentially increases development costs.

GO Rail, Union Station

7.3.2 **Transportation:**

The potential transportation consequences of this pattern are:

- a high level of road accessibility would be the critical component of the transportation network; and

- it is likely that transit improvements would concentrate on movements into the downtown core of Metropolitan Toronto: the radial GO Train commuter rail system, as well as the transit system, within Metropolitan Toronto and the other existing high density areas. Transit opportunities within and between regions would be limited, because of the low density nature of housing and employment.

7.3.3 **Natural Environment:**

The natural environment consequences of such a pattern are:

- the probable continuation of the policy approach outlined under Natural Environment option 2;

- high land consumption. Based on the GTCC consultants' calculations, an additional 620 km^2 would be required for a GTA population of 5.2 million, but this sprawl could easily reach 800 to 1000 km^2. This pattern has the greatest potential to disrupt and fragment the natural resources within the GTA;

- continuing reliance on the automobile and long distance commuting, increasing the potential for air pollution and energy con-

sumption with an overall deterioration in the quality of life;

- increased congestion throughout the GTA resulting from the lack of alternative transportation, the limitations to expansion of the existing road network and continued employment concentration within Metropolitan Toronto;

- servicing expenditures that emphasize the extension of sewers with less money available for upgrading of existing facilities; and

- continued development further upstream, increasing the potential for adverse storm water effects downstream.

On the positive side, this scenario offers the potential to allow many residents of the GTA easy access to open space and historically attractive suburban lifestyles.

7.3.4 Housing:

This pattern is closely linked to Housing Option 1, in which most high density residential and rental accommodation would be provided within Metropolitan Toronto and other existing centres such as Mississauga. The emphasis within the rest of the GTA would be on the continued production of low density single family detached units.

There are several implications of this pattern, the most important being the affordability and variety of the housing stock. Unless there is a match between housing price and type, and the demographic and employment characteristics in all areas of the GTA, workers will face increased commuting distances.

At the same time, it must be recognized that low density residential development continues to be the preferred housing choice of many people.

7.3.5 Community Impact:

Most new development would take place in a low density pattern. The impact on the character of existing communities would be minor, except for the community encroachment of increasing automobile traffic. In addition, the gradual urbanization of predominantly rural communities would have a major impact on the character of those communities.

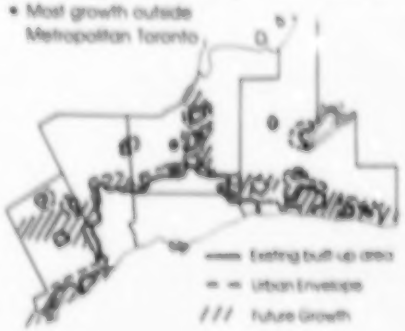
7.4 Alternative II: Fingers

Under this scenario, most new population growth would be outside of Metropolitan Toronto. Metropolitan Toronto's population would increase by approximately 300,000 to around 2.5 million over the next 20 years. The growth in the regions, (approximately 1.2 million) would be ac-

The Humber River, an example of downstream pollution in the GTA

Fingers

- Growth concentrated into high density fingers extending out from Metropolitan Toronto, and
- Most growth outside Metropolitan Toronto



commodated by expansion of the urban envelope focused in five fingers: two along the existing east-west Lakeshore corridor, a northern Yonge Street finger, a Milton finger and a Seaton finger. These fingers could eventually extend beyond the current boundaries of the GTA. These fingers would be developed at average densities of between 2,000 and 6,000 ppkm^2 (a spine of high density along the finger).

7.4.1 **Employment:**

Employment would still be concentrated in Metropolitan Toronto. The employment/population imbalance within Metropolitan Toronto would be reduced because Metropolitan Toronto would have a slightly higher population and consequently labour force, than under the Sprawl Scenario.

It would support Employment Option 2, by redirecting some employment out of Metropolitan Toronto, into employment concentrations within the surrounding regions. Shifting some of Metropolitan Toronto's employment growth out into these corridors should reduce in-commuting to Toronto. Despite this, in-commuting would continue to be a major characteristic of the GTA employment pattern.

7.4.2 **Transportation:**

From a transportation perspective, this land use pattern partially supports the transportation framework outlined in Transportation Option 2. Focusing growth in corridors accompanied by increased densities would facilitate the provision of transit within those corridors and linear linkages to the Metropolitan Toronto transit system. It would generally support a transit system to serve non-central employment centres within Metropolitan Toronto and the adjacent urban area.

However, in-commuting to Metropolitan Toronto, funnelled into these corridors, would increase congestion and under-utilize the potential of the overall transportation network. It is unlikely that east-west transit across the northern GTA would be cost effective.

7.4.3 **Natural Environment:**

Certain natural environment aspects of this scenario represent an improvement over the Sprawl Model.

This pattern of development supports Natural Environment Option 3, to a limited extent:

- land consumption would be less than the Sprawl scenario. Consumption might be as low as 300 km^2, but may be over 500 km^2, if the fingers were allowed to extend at lower density;

- since growth would be focused

within fingers, overall fragmentation of the natural resources and land base may be lessened; and

• the wedges between the fingers would be more accessible for use as an open space network.

This pattern has environmental benefits. Some transit opportunities are provided, thereby potentially reducing reliance on the automobile and associated air pollution and energy consumption.

Unfortunately, one of the most likely directions for growth is the north Yonge Street corridor. Development in this direction may have potentially adverse impacts on the major water recharge area of the GTA, the Oak Ridges Moraine, as well as the potential for other adverse downstream effects.

Other aspects are not significantly different from the Sprawl model, for example, servicing dollars would still focus on new facilities, extensions and expansions.

7.4.4 **Housing:**

This pattern of growth accommodates aspects of both Housing Options 2 and 3.

Focusing growth into a more dense form of development within the corridors provides the opportunity to provide a greater range of housing types and densities as alternatives to single family housing development.

7.4.5 **Community impact:**

Greater community disruption and potential neighbourhood resistance to higher density development may be anticipated in the areas where growth is to be accommodated through denser, more linear communities than currently exist.

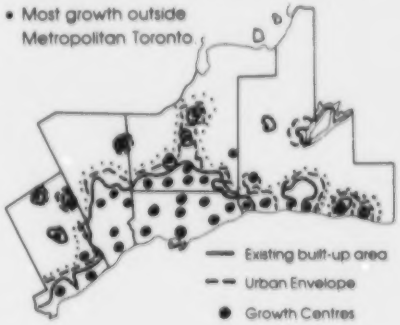
7.5 ALTERNATIVE III: DECONCENTRATED CENTRES

This scenario also assumes that the majority of population will be absorbed by the regions outside Metropolitan Toronto. Metropolitan Toronto would reach a population of 2.5 million and the population of the regions outside Metropolitan Toronto would approach 2.7 million over the next 20 years.

Growth would be focused in, and around, selected existing and potentially new urban centres, **throughout** the GTA to form a regional structure of distinct urban centres. In essence, these "new towns" would form part of a much larger hierarchy of centres extending beyond the boundaries of the GTA.

Deconcentrated Centres

- Multi-directional network of employment/ residential nodes throughout the GTA;
- Expansion of the urban envelope; and
- Most growth outside Metropolitan Toronto.



7.5.1 **Employment:**

The largest share of employment would be in Metropolitan Toronto,

but would not be as great as under the Sprawl scenario. This scenario clearly embodies the concept described in Employment Option 2, in which some office growth is shifted into regional centres, potentially reducing the employment imbalance outside Metropolitan Toronto and in-commuting to Metropolitan Toronto.

7.5.2 **Transportation:**

This scenario closely parallels the Transportation Option 2. In the long term, funnelling employment and population growth into compact centres may facilitate the provision of transit within these nodes. This scenario is also more conducive to pedestrian and bicycle travel within the nodes.

There may be the potential for inter-regional transit, connecting regional nodes in more east-west directions. The potential for an inter-regional transit system depends on a number of factors described under Employment Option 2. In addition, the distances between the Deconcentrated Centres may reduce effectiveness and increase costs of the transit systems.

Distributing growth out into regional Deconcentrated Centres, while facilitating transit, also requires continuing investment in the highway and road network linking these centres.

7.5.3 **Natural Environment:**

This scenario supports elements of the environmental framework, outlined in Natural Environment Option 3, and the overall goal of sustainable development:

- automobile use and associated air pollution and non-renewable energy consumption would be reduced;

- the compact structure of the centres, would result in less land consumption than in the Sprawl Scenario. Based on the GTCC consultants' calculations, an additional 400 km^2, approximately, would be required to accommodate a population of 5.2 million within the GTA. Consumption may, in fact, be higher because of the continued emphasis on green field development; and

- it offers potentially easy access to open space for the population.

However, there are some drawbacks:

- investment in servicing infrastructure would emphasize the extension of new services rather than the improvement of existing systems. There may also be great pressure to develop the intervening land between centres; and

- the distribution of growth into a number of centres increases the potential for further encroach-

ment onto, and fragmentation of, currently undeveloped, prime agricultural land, the moraine and other important natural areas. To a certain extent, it still emphasizes "greenfield development" and there may be limited incentive to substantially intensify and reinvest in the existing urban area.

7.5.4 **Housing:**

This pattern of development supports Housing Option 2, except that it may not emphasize intensification to the fullest potential.

Housing densities would also be higher at key locations under this scenario. Single family housing would be provided, but at smaller lot sizes. Medium density housing would be provided within these centres, as well as some higher density housing around the employment centres. This would help meet the projected housing needs of the projected increase in households and smaller household sizes.

There would also be an opportunity to distribute social housing units throughout the GTA into these nodes. They would offer the type of accessibility to services which is often required.

This scenario offers a great range and diversity of alternative housing and lifestyle options.

7.5.5 **Community Impact:**

Focusing growth at more compact densities into regional centres may alter the character of these communities, but overall community impact would remain relatively low.

7.6 Alternative IV: Concentration

This scenario proposes that almost all the projected GTA growth would take place within Metropolitan Toronto and older areas of the GTA. Metropolitan Toronto's population over the next 20 years may approach 3.2 million. There would be very little growth outside these existing built up areas.

Population growth would be accommodated through redevelopment, infill and other intensification techniques. The GTCC consultants have estimated that Metropolitan Toronto could physically accommodate as many as 3.8 million people through the redevelopment of currently underutilized institutional and industrial lands.

7.6.1 **Employment:**

Employment would remain concentrated within Metropolitan Toronto, similar to Employment Option 1, but would be matched by significant increase in population and consequently, the labour

Concentration

- Minimal expansion of existing built-up areas, and
- Accommodation of most growth within Metropolitan Toronto

force. There would be a greater employment/population balance within Metropolitan Toronto and in-commuting from the external regions would potentially be reduced.

However, the balance would depend on the ability of Metropolitan Toronto to retain its employment base to match the increased population. Since much of the proposed population growth would be accommodated through the redevelopment of industrial lands, the existing trend towards industrial relocation out of Metropolitan Toronto would be intensified by this pattern of growth.

This pattern of growth poses the greatest intervention into the market forces of supply and demand affecting the location of housing and employment. The curtailment of the physical options for employment/housing locations within the GTA, to the extent implied by this scenario, may ultimately discourage some potential employment growth from locating within the GTA.

7.6.2 **Transportation:**

In-commuting to Metropolitan Toronto by car and by commuter rail would be less than under other scenarios.

Transit investment could be focused on improving the network of transit and commuter rail within the existing urban area, such as the development of crosstown lines. If the accommodation of the population growth was through increasing densities at key nodes and along major arterials, the transit system would be more effective. Under this scenario, there would be less opportunity for the development of transit in the regions. New investment in the provincial highway system would be limited to improvements required for goods movement and intercity traffic; basic maintenance would also be required.

7.6.3 **Natural environment:**

This scenario offers significant benefits from a natural environment point of view. It supports the environmental framework outlined in Natural Environment Option 3, and the overall goal of sustainable development by:

- reducing commuting, and increasing the potential use of transit and walking. Employment and population are concentrated in areas which already are served by transit. Reduced air pollution and energy consumption would result;

- most servicing infrastructure investment could be directed to upgrading existing systems to mitigate some of the serious existing water quality problems, for example, in the Don River and Black Creek; and

• minimal additional land would be consumed (250 km², by 2011, based on the GTCC consultants' calculations) thereby conserving the land base for future generations. Encroachment on many of the environmentally sensitive areas of the GTA would be avoided except, possibly, the urban river valleys. The options for inter-regional planning of the natural resources and land base of the GTA would be maximized.

7.6.4 **Housing:**

This scenario is in keeping with Housing Option 2, emphasizing intensification.

Implementation of this scenario would increase the stock of multiple density housing. Medium and higher density buildings would form the bulk of new construction with less new single family dwelling production. This decrease in supply might increase the price of single family housing. The potential impact on prices depends to a large extent, on the timing, location and pricing of multiple housing alternatives. Some demand for new single family housing would be accommodated by areas outside the GTA, which would result in more long distance commuting into the GTA.

7.6.5 **Community impact:**

The accommodation of growth through concentrated redevelopment and intensification may have significant negative impacts on existing neighbourhoods and industrial areas. The physical changes that would have to occur would be major; within the next 20 years, at least one third of Metropolitan Toronto's industrial areas would have to be redeveloped for housing, if one half the population growth was to be accommodated there; the other 500,000 persons would be accommodated in the existing urban areas as redevelopment, infill, or accessory apartments.

7.6.6 **Other:**

One significant issue is the practical and political difficulty of eliminating the potential growth to the new areas of the regions. A number of public and private investment decisions are in place that would be difficult and costly to change.

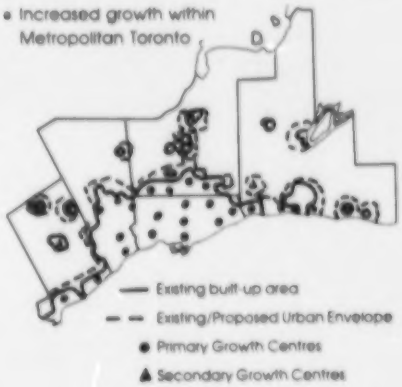
Unless great care is taken in curtailing development in the regions, and escalating redevelopment within the existing built up areas (which requires some lead time) major price increases for all development would occur.

7.7 Alternative V: Re-investment Centres

This scenario combines elements from both the Concentration and Deconcentrated Centres scenarios. A population of between 2.6 million and 2.8 million would be

Re-investment Centres

- Growth directed into limited numbers of centres, concentrated within the existing urban envelope;
- Minimal expansion of the urban envelope; and,
- Increased growth within Metropolitan Toronto



Community "N"

10 square kilometres @ 4000 ppkm2 = 40,000 population
At 2.5 persons per household, 16,000 housing units are required.

	Hectares
27% in roads, schools and parks	270
33% in industry, offices and other	330
40% in housing	400
total	**1000**

On that 400 hectares of housing:

50 hectares along main streets @ 120 uph	= 6000 units in 4-6 storey apts.,
100 hectares of 40 uph	= 4000 units med.density townhouses, row houses and duplexes
200 hectares of 30 uph	= 6000 single and semis with an over age of 13 metre frontages
50 hectares of extra open space	

accommodated over the next 20 years through intensification and redevelopment within Metropolitan Toronto. This is less than would be accommodated under the Concentration scenario but higher than other scenarios.

The remaining growth in the GTA would be accommodated within the existing 1990 urban envelopes of the existing communities in Durham, Halton and Peel through:

- intensification of the existing built up area; and
- the development of remaining undeveloped acreage within the urban envelopes at higher densities than currently proposed.

Growth would also occur through intensification and rounding out of the Yonge Street corridor and through the development of Seaton.

The overall objective would be to strive for an overall gross urban density within the GTA, of 4,000 ppkm^2. Although this density could not be achieved throughout the GTA, until well beyond 20 years, it could be achieved in Metropolitan Toronto within this time frame.

Growth would be concentrated within residential and employment centres at increased densities. Densities would also increase throughout the residential areas.

New centres, both linear and nodal, would be created within the urban envelope at locations oriented towards local transit systems, as well as locations served by improved commuter GO rail systems. This would also require increasing densities within centres already proposed.

The key differences between this scenario and the Deconcentrated Centres Scenario are:

- the accommodation of more population growth in Metropolitan Toronto and key centres within the 1990 urban envelope;
- creation of fewer centres throughout the GTA;

• higher densities within the suburban centres;

• a greater emphasis on intensification and redevelopment; and

• delayed distribution of growth beyond the existing urban envelope into new or expanded centres until investment and rationalization" of the existing urban envelopes has taken place. Ultimately, growth would move into new and expanded centres as envisaged by the Deconcentrated Centres scenario, but not until the density potential of the existing urban envelope has been realized.

7.7.1 **Employment:**

This scenario can accommodate elements of Employment Option2.

Increasing the population growth and consequently, labour force, within Metropolitan Toronto, and encouraging employment distribution into centres throughout the GTA urban envelope, should improve the employment/population balance for both Metropolitan Toronto and the regions. Commuting would potentially be reduced.

7.7.2 **Transportation:**

The concentration of a significant proportion of population growth within Metropolitan Toronto, facilitates the use of the existing transit network, while commencing to plan for an expanded inter-regional transit system. The first priority would be crosstown transit to service non-central area employment centres within Metropolitan Toronto and between Metropolitan Toronto and the immediately adjacent urban areas (similar to Transportation Option 2).

Increased densities in the urban envelopes and density concentration in key locations would facilitate the greater use of transit within the existing urban envelopes of the GTA. The beginning of a twin semi circular east-west transit network would be possible: one arc within Metropolitan Toronto, and one arc within the adjacent urban areas.

7.7.3 **Natural environment:**

This scenario supports Natural Environment Option 3. Its advantages from the viewpoint of sustainable development are:

• growth would be focused into areas which already have transit, or which through intensification and rounding out, may support it. The result is reduced air pollution and energy consumption; and

• the development potential of the existing urban envelopes would be maximized before shifting growth outward. This ap-

Alternative Patterns Of Growth: A Comparison of Characteristics

Characteristics	Sprawl	Fingers	Deconcentrated Centres	Re-investment Centres	Concentration
			2011 Population (in millions)		
Metropolitan Toronto	2.3	2.5	2.5	2.6 - 2.8	3.2 - 3.3
External Regions	2.9	2.7	2.7	2.4 - 2.6	1.9 - 2.0
Total	5.2	5.2	5.2	5.2	5.2
Urban Form	* Low density and dispersed development	* Growth focused into fingers • Lakeshore • Milton/401 • Yonge • Seaton * High density spine	* Growth focused in expanded & new centres throughout the GTA	* Growth focused into fewer centres within the existing urban envelope * More growth in Metro and existing urban areas	* Growth focused within existing built-up areas * Most growth in Metro
How Growth is to be Accommodated	* Greenfields *Low density expansion of the urban envelope	* Greenfields *Medium/high expansion of the urban envelope	* Greenfields * Medium density/ compact expansion of the urban envelope * Some redevelopment/ infill	* Less emphasis on greenfields * Emphasis on development within the existing urban envelope * Minor rounding out of the urban envelope * Intensification/ redevelopment	* Emphasis on intensification significant within Metro * No expansion of the urban envelope

Source: *Metropolitan Toronto Planning Department, Research Division: Population Projections, 1989.*
Note: *Urban envelope: Lands designated for development in official plans.*

pears to be the least wasteful use of the resources and the existing infrastructure. Additional land consumption would be reduced. Infrastructure investment would emphasize upgrading deficient existing systems to a greater extent than the Deconcentrated Centres Scenario.

7.7.4 **Housing:**

Medium density housing would be provided through intensification and redevelopment. Additional residential development, both medium and single family detached, would be provided on currently undeveloped lands within the urban envelope, but at more compact densities than in the past 20 years.

7.7.5 **Community impact:**

Community impact is expected in areas where redevelopment or intensification occurs, but the magnitude of change should be within reason if properly planned.

7.7.6 **Other:**

This scenario is not as risky as Concentration in terms of government intervention into the market forces affecting growth in the GTA. There is some risk. It does require significant government intervention to curtail expansion of the urban envelopes, and to emphasize intensification rather than continued greenfield expansion. There is also the issue of how successfully the overall momentum of growth in the suburban regions can be redirected.

This scenario requires substantial increases in suburban densities, including redevelopment. To be publicly acceptable, this increased density must be accomo-

dated through well planned and designed developments.

7.8 Evaluation Summary

The overall goals of achieving sustainable development and the enhancement of the quality of life have

One extreme of the spectrum is Sprawl. This report argues the consequences of the overall gross urban density achieved within the GTA under the Sprawl scenario (2400 ppkm^2, or less) are non-sustainable. There is an increased potential for impairment of the overall quality of life by commuting, and by the congestion and pollution caused by reliance on the automobile.

There is little time left in the working day of a commuting household to enjoy the amenities of low density suburban life.

The other extreme is Concentration. It has environmental benefits resulting from the likely impact on commuting, reduced land consumption, the focusing of servicing dollars on upgrading and enhancement of existing infrastructure. However, the overall quality of life may suffer from several perspectives, including public resistance to significant neighbourhood change and the potential disruption to the sense of community that existing neighbourhoods have strived to develop.

It is the three intermediate alternatives which may be more feasible: Fingers, Deconcentrated Centres and Re-investment Centres.

The Deconcentrated Centres scenario offers some potential to reduce the use of the automobile and in-commuting to Metropolitan Toronto. It supports the provision of a range of housing options to GTA residents and may enjoy a higher level of public acceptance, because of the lower impact on existing neighbourhoods.

However, although the distribution of growth into higher density nodes would support the creation of an inter-regional transit network, the overall population density within the GTA is unlikely to achieve the threshold for the reasonable provision of transit (4000 ppkm^2). The risk in this scenario is whether the GTA governments can successfully create a system of new centres and sufficient new rapid transit systems. Failure would leave the GTA closer to the sprawl model, at greater public expense.

The creation of a high density spine, envisaged by the Fingers alternative, offers transit potential within the corridors, but it may under-utilize the overall GTA transportation network. It may also result in inefficient servicing

Scenarios: Evaluation Summary

Goals Impacted By Urban Form Environment: Natural and Built	Scenarios Which Most Directly Support Goals
Promote the wise stewardship of the GTA's land base and natural resources	Concentration, Re-investment Centres
Develop an ecosystem perspective in planning for the environment of the GTA	Possible under all Scenarios, weakest under Sprawl
Protect and enhance the major natural features of the environment and environmentally significant areas	Re-investment Centres
Achieve accessible open space systems and recreational opportunities	Fingers
Restore soil, water and air quality	Concentration
Preserve or create areas which provide a sense of identity and multi-cultural diversity within the built environment and provide access to a variety of services	Both Centres
Enhance the pedestrian environment to encourage enjoyment of urban areas	Concentration, Re-investment Centres
Preserve heritage structures and landscapes which provide a sense of continuity for future inhabitants	Both Centres
Social Well-Being	
Provide choice in residential location in relation to tenure, cost, and form of development throughout the GTA	Both Centres
Provide an urban environment which meets the needs of persons with disabilities, the elderly and persons in care	Concentration, Both Centres
Improve accessibility between residential, employment and other activities	Concentration, Both Centres
Promote land use patterns which foster neighbourhood identity and the sense of community	Both Centres
Provide a range of neighbourhood, community and regional services, and cultural and recreational facilities that are accessible to all residents	Both Centres
Promote a healthy and safe urban environment which creates opportunities for social interaction	Concentration
Economic Opportunities	
Support viable economic activities throughout the GTA to meet changing economic conditions	Both Centres
Provide energy efficient transportation linkages which support live/work relationships	Concentration, Re-investment Centres
Develop a balanced integrated and competitive system of roads, transit, commuter rail services, airports and ports to serve the GTA.	Both Centres
Provide for the development of housing/employment concentrations capable of being served by transit	Concentration, Re-investment Centres
Develop land use patterns and densities which allow efficient use of piped services and existing infrastructure	Concentration, Re-investment Centres
Attract and maintain the workforce by provision of housing types suited to households of varying income in locations accessible to the workplace	Both Centres

investment. In addition, one of the most likely directions for growth would have significant environmental consequences.

For the average worker, a segment of the GTA would be readily accessible, as would recreational opportunities in the adjacent wedges. Unfortunately, travel to other parts of the GTA would be over longer distances. It may also be very difficult to maintain the intervening "green" wedges in their rural state.

The Re-investment Centres scenario is essentially a hybrid of the Concentration and Deconcentrated Centres alternatives. It has a more balanced density pattern than the Concentration option and higher densities outside Metropolitan Toronto than either scenario. Focusing a larger share of future growth within Metropolitan Toronto than contemplated by the Deconcentrated Centres scenario, and emphasising re-investment in the existing urban area, may achieve many of the environmental advantages of Concentration: less land consumption and impact on the natural resources, more effective use of existing infrastructure, and reduced air pollution and energy consumption.

Focusing growth within the existing urban envelope forces new development to be more compact and dense but provides more housing and employment options than the Concentration pattern. At the same time, because less growth is being directed to the existing urban areas and is being accommodated in a centres structure, fewer existing neighbourhoods would be affected than under Concentration. It does however, require substantial increases in suburban densities, including redevelopment.

A network of centres within the existing urban envelope within the GTA facilitates the creation of a first tier of inter-regional transit linkages around Metropolitan Toronto.

New medium density forms of housing of high quality close to employment oriented to a network of transit, are key to this scenario. A more urban environment along suburban main streets would offer variety and animation to many neighbourhoods. This option provides flexibility for future change, and at a rate that should be healthy and sustainable to the community.

7.9 Conclusion

Clearly no one pattern of growth is desirable in all respects. All have advantages and disadvantages; however, a pattern of growth that resembles the Re-investment Centres alternative, would help to achieve many of the goals Metropolitan Toronto considers to be critical within the context of the GTA as a whole.

8.0 IMPLEMENTATION

The success of the GTA from the point of view of the environment and quality of life will depend on how well the GTA municipalities and the Province, can work together to implement a unified vision of growth.

What mechanisms are available for inter-regional planning and coordination on this scale? How are the ongoing review and discussions on the future of the GTA to be accomodated?

8.1 INTER-REGIONAL PLANNING ELSEWHERE

The GTA is not alone in trying to answer these questions. Most major urban regions face similar situations, but their solutions differ.

In the USA, the most common mechanism are Councils of Governments (COGs), voluntary associations of local governments, or Regional Planning Commissions. In Australia, regional planning is undertaken by the state. In England, the new planning process introduced in the late 1980's, includes the opportunity for the National Department of the Environment to provide "strategic or regional guidance" to the local authorities, in the preparation of the local Unitary Development Plans. This "regional guidance" is based on input from regional groupings of municipalities (Standing Conferences).

8.2 CRITERIA FOR SUCCESSFUL INTER-REGIONAL PLANNING

From experience elsewhere in the world, several key elements appear essential for successful inter-regional planning:

- the ability and commitment of all parties to set aside parochialism and look at issues on an inter-regional basis. The body must be able to propose strategic directions which may be unpopular locally, but appropriate on a regional basis;

- the structure should concentrate on overall policy, rather than the details of plan implementation. The inability to focus on broad policy is a principal reason for the failure of inter-regional planning agencies, such as the New York Tri-state Planning Commission;

- the structure should be politically accountable to the population of the region;

- the structure should provide clear authority to plan. Implementing agencies should not be able to ignore these plans. In many cases, this has been achieved through the involvement of the upper tier government;

- there should be an ongoing structure;

- there should be provision for regular participation from all af-

fected sectors, including corporate groups, public interest non-profit groups, academia, and industry experts; and

• today's issues dictate a change from the traditional comprehensive land use planning approach to more strategic problem solving. Any inter-regional planning mechanism should be flexible enough to accommodate alternative approaches and to recognize the relationship between many issues.

8.3 Assessment of Planning Mechanisms Within the GTA

In 1977, the Robarts Commission on Metropolitan Toronto concluded that there was a need to coordinate Metropolitan Toronto's planning with that of the surrounding regions. It recommended the establishment of a coordinating agency, with some statutory powers, to coordinate planning within the GTA. It was more than a decade later, that the Office of the GTA and its associated committees, were established.

Generally, planning in the GTA has been an amalgamation of various municipal plans and remains a fragmented exercise. Both the provincial and regional governments have been reluctant, or in some cases, unable to adopt regional planning strategies. The two regions experiencing the most pressures for growth have no approved regional plans, and the opportunities and inclination for inter-regional planning at the municipal political level have been lacking.

The Province has been cautious in taking responsibility for making key decisions on growth in the GTA. It is not preparing a provincial plan for the GTA. Instead, the Province has instituted a number of "forums" to promote discussion, coordination and cooperation.

There are a number of weaknesses in the existing system:

• the institutions of the Office of the Greater Toronto Area, and the Greater Toronto Coordinating Committee, have no legislated mandate to plan, authority to implement plans, to provide area-wide services or allocate resources among competing provincial ministries, agencies or local authorities;

• with the exception of the ad hoc committee on solid waste disposal, most of the current ongoing structure is comprised of provincial civil servants and senior regional staff. It lacks ongoing political accountability;

• many critical social issues, such as the provision of the full spectrum of housing, particularly assisted housing, are not being addressed through the current process;

Fragmented Planning

• ongoing mechanisms for access and input from the public have not been established; and,

• the relationship and linkages between the various committees, boards and task forces within the GTA, are not clearly defined.

Not only are key decisions required on managing growth in the GTA, but also, the process of plan implementation remains unresolved.

8.4 Options for Inter-Regional Planning

As the GTA grows, issues and appropriate responses will change. Structures and inter-regional planning mechanisms appropriate today, may become obsolete in the future. The challenge is to create a mechanism that is rational, in terms of today's situation, but flexible enough to respond to change.

8.4.1 Direct Provincial Intervention

The Province could take on direct responsibility for inter-regional planning in the GTA. The Province controls the provision of major infrastructure and has budgetary tools at its disposal. A statutory plan under the Ontario Planning and Development Act could be prepared. Cabinet would be clearly responsible for planning for the GTA, with input from the regions. Regional and local official plans would have to conform with the provincial plan.

The advantage is that there would be a unified vision and responsibility for planning in the GTA, and the Province would have clear and ultimate implementation authority. The level of government responsible for making the decisions would also be responsible for managing the process.

• politically, however, it would be difficult for the Province to justify to its electorate, both inside and outside of the GTA, why the GTA would warrant such extraordinary and costly intervention into planning administration by the Province, particularly in light of the current planning systems in place; and

8.4.2 Indirect Provincial Intervention

The Province could take on a role of providing "strategic guidance" for the municipalities to follow. It could accomplish this in two ways: by preparing "non-statutory plans" (plans that have no weight under provincial legislation) or, by issuing policy statements under the Planning Act.

Non-statutory plans can be prepared quite quickly since there is no required legislative process.

- Statutory Plans
- Non Statutory Plans
- Policy Statements

Such plans would provide an overall framework within which to plan. They might, however, suffer from the same problems as "Design for Development", particularly, the questionable legal basis for such plans and the lack of an appeal process.

Alternatively, the Province could outline the major elements of a concept plan for the GTA in a policy statement under the Planning Act. This would provide a clear direction and a framework for planning. It would avoid some of the legal problems associated with non-statutory plans. The approval process of policy statements by Cabinet is more flexible than for the statutory plans. The process for public input and review is at the discretion of the Minister.

This only addresses one-third of the dilemma. A process for municipal and public involvement is still required, as well as a process for coordination of implementation and the resolution of inter-regional policy issues.

8.4.3 Special Purpose Bodies, and Task Forces

An approach often used in the USA is the use of ad hoc task forces or special purpose bodies, established to deal with particular inter-regional programmes or single issues.

Such bodies already exist in the GTA; the Regional Chairmen's Committee on Waste Management and the conservation authorities are two examples. At the provincial level, the new crown corporation for water and sewers is another example.

The advantage of single purpose bodies is that, since their mandate and focus are very clear, they are often very successful in specific areas.

The disadvantages include:

- they deal with only one programme or issue, and may become too narrowly focused on one objective. They may be unwilling, or unable, to balance other critical objectives;

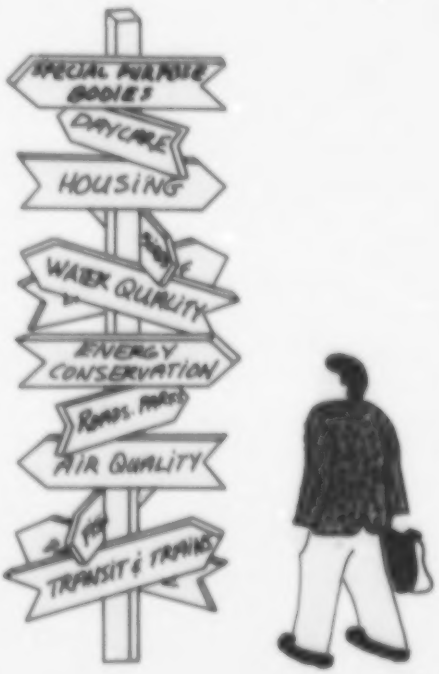
- with no overall coordination, the potential exists for contradictory decisions;

- some important issues are inevitably ignored, because they do not specifically fall within the organization's mandate; and

- the political accountability of the bodies is quite often difficult to maintain.

8.4.4 The Establishment of an Inter-Regional Planning Committee or Board

An alternative would be to build upon the structure already in place,



and establish a committee made up of political representatives of the regions: the regional chairmen, mayors of the major population centres as well as the key provincial ministers, or deputy ministers.

The composition of this committee would differ from the current Greater Toronto Coordinating Committee because it would be made up of political representatives, rather than regional senior staff. It is essential that the representatives be able to speak for the regions, and the ministries.

One drawback to a committee made up of regional councillors is that, with the exception of Metropolitan Toronto, they are not directly elected.

An alternative committee structure would be a "Council of Governments", including all regional and local councillors. In this case, the large numbers of participants would indicate the need for the establishment of an executive committee.

8.4.4.1 **Roles and Responsibilities**

Regardless of composition, the committee would be constituted on an ongoing basis, meeting regularly with a clearly defined and agreed mandate and budget. The overall mandate of the committee would be as an "umbrella" policy making and coordinating committee. The committee would be responsible for preparing and updating the concept plan for the GTA, to provide guidance and ensure that broad policy issues are discussed and resolved. The coordination of major policy issues and programs is integral to the committee's role in providing strategic policy direction for planning within the GTA. To provide support to the overall committee there could be technical staff committees dealing with specific program areas where inter-regional coordination is critical, such as transportation, open space planning, waterfront planning, and social housing. Staff and budget support to the committee could be provided from all GTA municipalities.

An important function of this committee would be to build involvement and commitment from of all sectors, in determining the priorities and issues for the GTA. Consequently, the committee would hold regular forums for provincial, municipal and private sector interests. This would form the basis for the ongoing work programs for the technical committees and plan monitoring.

The powers and responsibilities of this committee may seen as being on a continuum. At one end, the committee would act as an advisory or advocacy body on

planning issues, but without direct implementation authority. The committee would provide a forum for the discussion of mutual issues and the development of recommendations. It would take on an advocacy role for inter-regional problems and their solutions to the implementing authorities, the regions, local municipalities and provincial agencies.

The weakness of this type of committee is the problem of ensuring compliance with the policies of the committee by implementing authorities.

At the other end of the continuum, not only might the committee be given the mandate to prepare policy recommendations and advocate planning positions, but it might also have the authority through legislation, to implement its policies. One key authority would be the legal requirement that all official plans conform to the policies of the committee.

The committee might also act as an overall review body for the programmes and activities of existing special purpose bodies operating within the GTA, for example, the conservation authorities. Those activities which have significant policy implications, annual work programmes and budgets would be brought forward to the committee for approval.

The drawbacks to this approach are:

- it inserts yet another layer of planning approvals required within the GTA; and

- from the perspective of the individual regions, it may be viewed as a reduction of their planning powers and autonomy.

8.5 Provincial/Municipal Partnership

Another alternative is an approach which combines elements of all three mechanisms. This approach is a partnership between the Province and the regions in implementing the concept plan for the GTA.

Under this approach:

- the Province would continue to develop policy statements under the Planning Act on matters across the GTA which are of legitimate provincial interest, for example, the Oak Ridges Moraine, the Niagara Escarpment, and the Parkway Belt.

In addition, the Province would approve the major elements of the concept plan prepared by the coordinating committee as a policy statement under the Planning Act.

The provincial involvement would reflect an greater emphasis by the Province on the devel-

opment of a strategic framework for managing growth within the province, not only the GTA.

- the Greater Toronto Coordinating Committee would be restructured as outlined earlier, and should act as an umbrella policy organization for the GTA. The Province would mandate and resource this committee to prepare the concept plan for the GTA for approval as a Policy Statement.

This committee would be responsible for policy advice to the Minister and Cabinet on the effective implementation of the Concept Plan Policy Statement including major public infrastructure decisions. It could coordinate the resolution of inter-regional policy issues and provide an umbrella policy review function for the major program initiatives by special purpose bodies. It would also host ongoing forums to solicit public opinion and identify emerging issues in the GTA.

Such an approach would combine many of the advantages of the other alternatives but it also has disadvantages.

The key ones are:

- historically, the Province has been unwilling to consider policy statements under the Planning Act which are geographic in nature;
- such an approach may be perceived as undermining the planning powers and autonomy of the individual regions and municipalities; and
- if given sufficient powers, the committee might be viewed as yet another level of government. If not sufficiently empowered, it would, potentially, be ineffective in some areas of responsibility.

8.6 Conclusion

Implementation of a concept for the future growth in the GTA is a critical issue. The appropriate structure and mechanism for inter-regional planning has not received the same attention as the overall concepts for growth.

This report suggests the Province and the GTA municipalities establish a process, concurrent with the review of the concepts, to evaluate alternative mechanisms for implementation, including those discussed in this report, as well as an implementation time table.